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# East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

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10 October 1984

## EAST EUROPE REPORT

### ECONOMIC AND INDUSTRIAL AFFAIRS

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R&D AREAS OF CSSR-CEMA COOPERATION ENUMERATED

Prague SVET HOSPODARSTVI in Czech 7 Aug 84 p 3

[Article by Dr Karel Matejka, Federal Commission for Research and Development and Investment Planning: "Cooperation in Research and Development Between the Czechoslovak Socialist Republic and the CEMA Countries"]

[Text] In 1983, Czechoslovak cooperation in research and development with the CEMA countries, both on a multilateral and bilateral basis, was directed primarily toward solving the most important R&D problems included in the CEMA Countries' Agreed Long-Range Plan of Multilateral Integration Measures for 1981-1985 and in other, especially branch, plans for multilateral cooperation in research and development; the R&D tasks stemming from the Long-Range Program of Production Specialization and Cooperation Between the USSR and CSSR; and other scientific and technological problems included in the bilateral programs of cooperation in research and development with individual CEMA countries.

Furthermore, Czechoslovak cooperation in research and development focused on organizing and holding the first phase of the multilateral and bilateral consultations regarding the basic questions of research and development policy; on coordinating the CEMA countries' five-year plans for research and development in 1986-1990; on elaborating the forecasts, concepts and long-range programs of the CEMA countries' cooperation in science and technology through the year 2000; and also on creating and perfecting the methodological, economic, organizational and legal prerequisites for the further development of the CEMA countries' multilateral and bilateral cooperation in research and development.

Cooperation continued, of course, also in training R&D staffs and upgrading their qualifications; in the area of mutual operational assistance in supplying research and development with hard-to-get materials, fine chemicals, unique scientific instruments and equipment; in study tours and mutual consultations among specialists; and in the mutual exchange of R&D documentation, prototypes, models, etc. The following basic statistics characterize the course and results of cooperation in research and development in 1983:

1. In 1983, Czechoslovak R&D and production organizations participated in the solution of more than 2,800 tasks within the framework of multilateral or

bilateral cooperation in research and development. During the year, more than 1,200 solutions were completed and ready for introduction. These included:

|   |     |
|---|-----|
| Prototypes of new machines, instruments and equipment | 183 |
| New technological processes                           | 273 |
| New materials   | 68  |
| Automatic process control systems                     | 12  |
| Other automatic control systems                       | 21  |
| Intangible R&D solutions ready for introduction       | 645 |

Of the R&D solutions ready for introduction, 152 were introduced in production (or national economic practice) in Czechoslovakia the same year; preparations are underway for the introduction of 684 in subsequent years; and 82 are not expected to be introduced due to the nonfulfillment of the planning assumptions or of the technical and economic parameters.

2. Czechoslovakia sent 10,580 specialists abroad for consultations, and received 10,715 specialists from the CEMA countries for consultations. The combined total of specialists sent and received for consultations was 21,295, an increase of 6 percent over 1982.

3. Czechoslovakia transferred to CEMA countries a total of 3,622 sets of R&D documentation, including 1,084 sets of design and technological documentation. Seventy-two of the transfers were reimbursable. On the other hand, Czechoslovakia received 2,933 sets of documentation.

4. Czechoslovakia transferred to CEMA countries a total of 4,448 prototypes of machinery, equipment and instruments, and samples of materials and various products (for example, samples of materials, footwear, fancy goods, etc.), for a total compensation of about 25 million korunas. Czechoslovakia received 4,583 such prototypes and samples, for which it paid 19 million korunas.

5. Czechoslovakia's 18 sales of licenses and know-how to CEMA countries were worth 38 million korunas, and the 45 purchases of licenses and know-how from them totaled 45 million korunas. The most significant sales included the following: a license by Agrozet of Brno to Hungary, to manufacture small tractors; the sale to the GDR of know-how regarding the electrospark ragging of the rolls in rolling mills; the sale to the GDR of know-how to build reinforced concrete smokestacks using moving forms; and the sale of a license by Kohinoor of Ceske Budejovice to the Soviet Union, to manufacture an interpreter. The following may be regarded as the most significant purchases: the purchase of a license from the Soviet Union for the dry cooling of coke at the Vitkovice Iron Works; the purchase of a plasmolyzer license from the Soviet Union for Liko of Bratislava; the purchase from Hungary of know-how on cold bending; and the purchase of know-how from the Soviet Union to produce L-threonine on a laboratory scale at SPOFA [United Pharmaceutical Factories] of Prague.

6. Through the Polytechna Foreign-Trade Enterprise, Czechoslovak organizations last year concluded with their foreign partners 166 contracts for cooperation in research and development, totaling about 130 million korunas.

This represents an exceptionally sharp rise over 1982 when only about 36 such contracts were concluded through foreign-trade organizations.

7. The overall benefit for Czechoslovakia from cooperation in research and development in 1983 exceeded 1.2 billion korunas. This includes, for example, savings of more than 250 million korunas on the noninvestment costs of research and development, and savings of more than 370 million korunas through additional export or import substitution, by implementing the results of cooperation.

Among the individual specific results of cooperation we might mention, for example, the elaboration of a method to produce carboxypeptidase V using spheron and an inhibitor with a covalent bond. The annual benefit from the application of this technology is about 3.5 million korunas. The CSAV [Czechoslovak Academy of Sciences] Institute of Organic Chemistry and Biochemistry and the USSR Academy of Sciences Protein Institute jointly developed the technology and have obtained a patent for it.

Another example of efficient cooperation is the solution that reduces from 1.2 to 0.3 mm the surplus material of the turbine-blade forgings made of expensive nickel alloy EI 893 and used in the first three rows of blades in internal combustion turbines for gas pipelines. It was developed jointly by the First Engineering Works of Brno and the Energomash All-Union Planning and Technological Institute. The practical application of this solution in production will save annually about 2.0 million korunas in production costs. Cooperation saved more than 1.6 million korunas in R&D costs.

Czechoslovakia and the Soviet Union jointly developed and tested also carbon products for electric motors. The developed materials were tested on 580 electric locomotive motors, and on 620 traction motors of Tatra streetcars, Skoda trolleybuses and metro motor cars, in Czechoslovakia and the Soviet Union. Practical application of the results of this joint research and development will enable Czechoslovakia alone to substitute an annual import of 20 tons of electric-motor graphite from nonsocialist countries and thereby save over 6.0 million foreign-exchange korunas.

Collaboration between Czechoslovakia and the GDR in the area of mounting transistors, especially of encasing them in ceramics, led to cooperation in encasing in the GDR 600,000 memory chips of the MAB-2102A type worth over 10 million korunas. This cooperation will continue in subsequent years. The application of GDR know-how to optimize the testing of MHB-8080A microprocessor chips enabled Czechoslovakia to reduce by 45 percent the testing time on the Y-7 tester; this has increased the capacity of the expensive tester by 40 percent and has saved 1.5 million korunas in investment costs that otherwise would have been necessary.

The third member in Czechoslovakia's contribution to the joint Czechoslovak-Bulgarian series of air-break contactors, type V63E, was assigned to production last year. The ESC [Czechoslovak Electrical Engineering Association] has rated the mechanical endurance of the device at 1.0 million closures for the AC 3, 380 V, 63 A load category. The fourth member of the series of "E" contactors,



type V160E, was likewise assigned to production. The ESC has rated its mechanical endurance at 1.1 closures, and its electrical endurance at 0.5 closures, for the AC 3, 380 V, 160 A load category.

In nonferrous metallurgy, cooperation between GR Kovohute [General Directorate of Nonferrous Metallurgical Plants] and MAT [Hungarian Aluminum Industry Trust] of Budapest produced the greatest benefits in aluminum production at the Ziar nad Hronom National Enterprise and in using computers to control the electrolysis of aluminum. This cooperation saved 1.5 million korunas in R&D and investment costs.

Within the framework of multilateral cooperation on solving the problem "Development of New Industrial Catalysts and Improvement of the Quality of Industrial Catalysts," intensive research and development continued to develop catalysts that at present are not produced in CEMA countries and must be imported from nonsocialist countries. Czechoslovak work stations are cooperating with Soviet organizations on the research and development of catalysts to be produced in a special catalyst plant; preparations for its construction in the Soviet Union are in progress.

Extensive cooperation is continuing also on recovering precious metals and rare elements from spent catalysts. On the basis of the cooperation program, the CSSR has developed technologies for recovering cobalt and molybdenum. Work is continuing on methods for recovering platinum, rhenium, rhodium and palladium.

The CEMA coordination center and the Council of the CEMA Countries' Commissioners for Industrial Catalysts are cooperating closely with the Internefteprodukt international business association whose tasks include, among other things, the organization of specialization and cooperation in the production of industrial catalysts, and the curtailment of their import from nonsocialist countries. The effectiveness of cooperation in this area is evident from the facts that Czechoslovakia's import of catalysts from the Soviet Union increased fivefold from 1981 to 1983, and that the Czechoslovak export of catalysts to the Soviet Union will soon reach 20 million korunas a year.

Within the framework of multilateral cooperation in 1983 on the problem "Development of Efficient Methods for the Use of Gas as Fuel, and Development of Efficient Gas Appliances," functional models have been successfully tested, development has been completed and the prototypes tested, or the technical documentation for manufacturing has been prepared, for the following:

- Automatic burners for rotary kilns (Hungary-USSR);
- Pulsed burners for drying out remotely controlled burners (USSR);
- High-speed burners (USSR-GDR);
- Electronic equipment for automatic control (GDR);
- Heat insulation for furnaces (CSSR-GDR-USSR);
- Programming the operation of ingot-soaking pits (CSSR); recuperative furnaces (CSSR-GDR); heat exchangers (USSR); and recuperators (USSR);
- Batwing burners (GDR-USSR-CSSR);
- Gas air-blast burners (USSR-CSSR);
- Multifuel burners (CSSR);
- Bank burners (CSSR-Hungary); and
- Automatic oil burners (Bulgaria).

On the basis of the results of cooperation in research and development, agreement was reached also on production specialization and cooperation, and a joint catalog has been compiled of the CEMA countries' burners that meet world parameters.

Intensive work was begun last year also on coordinating the 1986-1990 research and development plans, and on defining the principal directions, concepts and objectives of the CEMA countries' cooperation in research and development for the period approximately through the year 2000.

Within the CEMA organs and in Czechoslovakia's bilateral relations with individual CEMA countries, consultations were held--on the basis of the report "Principal Directions of the CEMA Countries' Cooperation in Research and Development Through 1990 and Thereafter" that the CEMA Committee on Cooperation in Research and Development prepared--on the basic questions of R&D policy, and the R&D problems have been selected for inclusion in the plans of multilateral and bilateral cooperation in research and development in 1986-1990. The outcome of the first phase of the plans' coordination indicates that Czechoslovakia will participate under the next five-year plan in the multilateral or bilateral solution of more than 230 important R&D problems.

The second phase of the plans' coordination is currently in progress, and now also the individual ministries are fully participating in it. The selected problems are being elaborated into individual topics and specific R&D tasks; the organizations are being designated that will cooperate in solving the tasks; the forms and methods of cooperation are being specified and spelled out in greater detail; and the appropriate international agreements are being drafted.

Contacts between the cooperating organizations are a direct continuation of the second phase of coordination. The purpose of these contacts is to agree on the technical and economic parameters of the targeted solutions; to accurately define the mutual division of labor; to specify the stages of solution; to prepare R&D work schedules; and, in special instances, to conclude R&D contracts for the solution of the selected tasks, or to prepare proposals for the establishment and activity of ad hoc international R&D teams, joint laboratories, and international scientific production associations, partnerships and enterprises.

One such project, for example, is the drafting of a program for the activity of the Robot Czechoslovak-Soviet Planning, Design and Technological Bureau that, under the next five-year plan, will concentrate particularly on the design and development of industrial robots and manipulators for:

--Flexible production systems to machine rotating machine parts;

--Automated production lines for stampings, especially in the electrotechnical, electronic and radio engineering industries, and selected sectors of engineering;

--Robotic complexes and flexible production systems for automated assembly in various production sectors, but here again primarily in the electrotechnical,

electronic and radio engineering industries, in the production of instruments, and so on.

The establishment and future orientation are being discussed of an R&D team for work with the research reactors at the Nuclear Research Institute in Rez near Prague. The feasibility is being considered of establishing a Czechoslovak-Soviet association of R&D and production organizations for the comprehensive use of timber. And the possibilities are being investigated of setting up a joint Czechoslovak-Soviet work station for the research and development of integrated circuits, microprocessors, single-chip computers, and for a number of other suggestions.

When drafting the programs and plans for cooperation in research and development in the next five-year period, the central agencies and cooperating organizations are using the new methodological and organizational instructions and regulations that were elaborated on the basis of the experience gained during the past 10 years when implementing the Complex Program of Socialist Integration. Such materials are especially the following:

--The new "General Conditions of Cooperation in Research and Development Between Czechoslovakia and the Soviet Union," approved at the 35th session of the Subcommittee for Czechoslovak-Soviet Cooperation in Research and Development;

--The revised "Organizational, Methodological, Economic and Legal Principles of the CEMA Countries' Cooperation in Research and Development, and of the CEMA Organs' Activity in This Field." The CEMA Committee for Cooperation in Research and Development approved the draft of this revised document at its 30th session (held in Prague in March 1984).

In conjunction with the resolution that the 106th session of the Executive Committee adopted, the CEMA Committee for Cooperation in Research and Development began preparations already in 1983 to draft a Comprehensive Program of the CEMA Countries' Research and Development in the Next 15 to 20 Years, the horizon of which extends beyond the year 2000.

The first specific proposals regarding the structure and content of this document were discussed in March 1984 in Prague, at the 30th session of the mentioned committee. It was decided that the draft of the Comprehensive Program would contain:

- The long-range basic objectives of cooperation in research and development;
- The principal directions of cooperation in basic research; and
- The principal directions of cooperation in research and development, and in mastering new equipment, technologies and materials.

Simultaneously it was agreed that in its subject matter the Comprehensive Program would concentrate primarily on fuels and energy, engineering, the extraction and processing of mineral raw materials, agriculture and the food industry, forestry, construction, transport, durable consumer goods, pharmaceuticals, health care, and environmental protection.

In the area of basic research, which must provide the necessary lead for science over development and economic cooperation, it is assumed that the Comprehensive Program will concentrate on biology and genetic engineering, on developing further the theoretical principles of microelectronics and computer technology, on harnessing the thermonuclear reaction, on photosynthesis, and the further development of space research.

The Comprehensive Program of the CEMA Countries' Research and Development in the Next 15 to 20 Years, which will be submitted for approval to the highest CEMA organs in 1985, will become the basis of formulating long-range goal-oriented programs of cooperation that will ensure the solution of selected programs and tasks in the uninterrupted research-development-production cycle, parallel with the solution of the related problems in the area of unification, technical standards, patent protection, licensing, economic and production collaboration (production cooperation and specialization), and mutual deliveries of products.

1014

CSO: 2400/427



MANPOWER IN AGRICULTURE SURVEYED

Prague ZEMEDLSKE NOVINY in Czech 8 Sep 84 p 3

[Article by Eng Jaroslava Glaserova: "There Are Fewer People, But Qualifications Are Improving"]

[Text] In order to determine the situation in the area of replenishing the agricultural work force, state statistical organs organized a survey of permanent agricultural employees in all agricultural enterprises as of 1 February 1984 throughout the CSSR. According to the results of this survey, 891,000 people are working in Czechoslovak agriculture. This means that in comparison with the previous survey of 1 February 1980, the overall number has dropped by almost 7,000 in the past 4 years.

While the annual decrease in permanent employees averaged 28,000 in the Fifth 5-Year Plan and about 18,000 in the Sixth 5-Year Plan, in the period between the last surveys the number of workers in Czechoslovak agriculture decreased on an average of 1,640 per year. This is a consequence of the fact that the significant decrease in the number of agricultural workers which has been going on for years has recently just about stopped.

A Turn For the Better

If we consider only developments in the socialized sector, where the vast majority (99 percent) of the overall number of agricultural workers are employed, it can be said that the number of agricultural workers has stabilized in the past few years and has remained at roughly the 1980 level. Between 1 February 1980 and 1 February 1984 there was an average annual decrease of only 190 workers in the socialized sector, while in the unified agricultural cooperatives 1983 finally saw the first increase in the number of workers.

The stagnation in the development of the overall number of agricultural workers in the first years of the Seventh 5-Year Plan was largely affected by the fact that one of the main sources of labor, the sector of the remaining independent farmers, which currently accounts for only 1 percent of the overall number of workers in Czechoslovak agriculture, was practically used up.

In earlier years, the decrease in the agricultural labor force was made possible by the development of mechanization in agricultural enterprises and product specialization. The effect of a higher natural decrease of agricultural workers also showed up in connection with the relatively high number of workers entering retirement age.

Even though the number of workers has steadily dropped over the long term, the volume of agricultural products produced per agricultural worker is constantly increasing. The value of gross agricultural production (in constant 1980 prices) per agricultural worker reached Kcs 118,000 in 1983, which is a fivefold increase in comparison with the post-war period.

The widespread use of new technology in agricultural production and the gradual replacement of manual labor by machines have affected the development of the labor force's structure in terms of proportions of men and women. Even up until 1970, women working in agriculture were in the majority, but then their share started to drop more rapidly and by 1 February 1984 it was 42 percent. A favorable influence on the development of the labor force's structure from the standpoint of gender is the fact that in the past few years not only has the relative proportion of men working in agriculture grown, but since 1980 their absolute numbers have also increased. This development is very desirable since we mainly need men to operate the heavier equipment.

The make-up of agricultural workers is also changing in terms of categories and professions. There has been a slight increase in technicians, particularly with the structural transformation of Czechoslovak agriculture. The concentration of farm land into a smaller number of agricultural enterprises, resulting in a greater average allocation of farm land per enterprise, along with the concentration and specialization of agricultural production, demands a relatively greater number of technicians in connection with the greater demands for management.

The number of manual workers is dropping, although slowly, in crop and livestock production, but at the same time there is an increase in workers in other areas, mainly associated production and other production areas and activities. The increase is mainly in workshops and mechanics resulting from the growing extent of repair and other support operations.

#### Even Agriculture Is Getting Younger

The continuous reduction in the overall agricultural labor force for many years was not accompanied to a significant degree by improvements in its age and qualification structure.

The composition of agricultural workers by age did not begin to improve until after 1970, and then only slightly. But there have been signs of a more favorable trend in recent years. The proportion of workers in the younger age groups (15 to 44 years of age) in comparison with 1980 grew from 54.6 percent to 60.2 percent of the total number of agricultural workers. At the same time, the proportion of personnel of retirement age (that is, men 60 years old or older and women 55 years old or older) dropped in the period studied (1980 to 1984) from 16.9 percent to 14.6 percent.

A positive factor in the development of the age structure of agricultural workers is the fact that representation of workers in the most productive age group (25 to 44 years of age) increased not only on a relative basis but also on an absolute basis. In the past 4 years, more than 45,000 persons in that age group have been added to the agricultural labor force, with men making up much of the absolute increase (their numbers in the ages 25 to 44 grew by 35,000 in comparison with 1 February 1980).

The development of the age structure of agricultural workers was partly influenced by improving results through savings directly at the agricultural enterprises and partly by a number of actions taken by central organs in the area of supplying and stabilizing the agricultural work force (for example, in questions of rewarding workers, giving advantages to housing construction for agriculture, etc.).

The average age of agricultural workers as of 1 February 1984 was 41.4 years, which means that in comparison with 1 February 1980 it had dropped by 1.1 years. Women working in agriculture are still older on the average (42.9 years of age) than the men (40.3 years of age). By way of comparison, in industry the average age of workers is 37.2 years of age and in construction it is 35.9 years of age (according to the census of 1 November 1982).

#### We Are Picking Up High School and College Graduates

In the past few years, agriculture has also seen an improvement in the qualifications structure, both for technicians, where in comparison with 1980 the proportion of personnel with college or completed high school education has further increased, and for manual workers, where the level has been raised mainly by picking up personnel who have completed their education, which reduces the proportion of personnel with only a basic education.

In primary agricultural production in the socialized sector, as of 1 February 1984 18.1 percent of the technicians had a college education (on 1 February 1980 it was 13.7 percent) and 57.2 percent had a high school education, that is, a diploma (on 1 February 1980 it was 51.8 percent).

Of the total number of manual laborers in the socialized sector of agriculture, as of 1 February 1984 41.5 percent had completed their education, but this was 53.9 percent of the men and only 24.3 percent of the women. The overall poorer qualification structure for women than for men permanently employed in agriculture is partially a consequence of the annually repeated process of low representation of young women in picking up young people from the basic 9-year schools for training in agriculture.

While on the average 41.5 percent of the manual workers in the socialized sector of agriculture have completed their education, in crop production it is 35.5 percent and in livestock production it is only 29.0 percent. The greater share of those who have completed their education is found in workers in associated production (45.8 percent) and in other production and activities (58.3 percent), where there is a concentration of workers in repair shops and construction activities supporting agriculture.

The level of qualifications in agriculture is most clearly defined by the number of qualified workers in relation to the overall number of persons permanently employed in agriculture. In primary agricultural production in the socialized sector in the CSSR, the total number of workers with a college or high school education per 1,000 permanent employees rose from 133 in 1980 to the present 166, and those with a college education rose from 19 to 26 workers.

In the last 4 years, the socialized sector of agriculture in the CSSR added 102 workers who have completed their education per 1,000 permanent employees, so that as of 1 February 1984 there was a total of 363 employees per 1,000 who had completed their education. This significant increase in the number of workers who have completed their education is partly a result of improved fulfillment of the plan for the overall selection of young people for training in agriculture, but obviously is also a consequence of completing the education of adult workers, and in some cases results from the increase in workers acquired for agricultural enterprises from other branches of the economy.

Although overall there has been a certain stabilization of personnel in agriculture, there are still some areas (for example, the coal basin okreses of Usti nad Labem, Chomutov, Most, Teplice, Ceska Lipa, Sokolov, and a number of outlying places) where the situation is not favorable in this matter. Therefore, other actions for the stabilization of agricultural workers are being taken. But the agricultural enterprises should take a more active part in the systematic improvement of the working and living conditions of their workers, especially in the interest of stabilizing the professionally qualified cadre of workers.

6285

CSO: 2400/442

# NEED FOR MORE COMPETITIVE MARKETPLACE AS SEEN FROM OLSZTYN

Olsztyn GAZETA OLSZTYNSKA in Polish 9 Aug 84 p 3

[Article by Wincenty Chelchowski: "'Ah, Monopolies, Monopolies! A Terrible Thing, and Not Just Under Capitalism Either'"]

[Excerpts] The title of this article is taken from words I used in an article carried in GLOS OLSZTYNSKI in October of 1966. The article dealt with the excessive concentration and monopolization of industrial production and of the organization of trade and services. These were opinions which were not popular at the time. I, too, did not expect that in 1983, within the framework of the Commission for Economic Reform, intensive work on the law on counteracting monopolistic practices would begin.

Following laws concerning enterprise and worker self-government, the passage of an antimonopolistic law would be a subsequent, significant step in the direction of reforming the Polish economy. When do we speak of a monopoly in a certain field? "Monopoly occurs," says Prof Janusz Goscinski, "when one or a very small group of manufacturers has a predominant supply of a given product or of a group of products or services on the market."

Certain criteria are generally accepted in qualifying someone as a monopolist in some area of the market. In the assumptions of the 2nd and 10th task forces of the Commission for Economic Reform, various authors associate monopolistic practices with the concept of the dominant position of an economic unit. They maintain that an economic unit has a dominant position when it does not encounter any competition on a given market; when it does encounter competition but its [economic unit] share in a given year surpasses one-half of the combined share of its competitors; and when it appears in an oligopoly whose share on the market exceeds 80 percent.

Many years of experience demonstrate that regardless of the political system, monopolists lose interest in the quality of goods produced, in providing good service, and also in the economic account and in lowering the cost of production.



One of the best areas of our domestic trade is without a doubt the fruit and vegetable consumer market. Can we say that it is perfect? Taking the city of Olsztyn as an example, we can say that it is not yet perfect. Above all, price considerations come to mind. It stands to reason that in Wasaw and in other cities located closer to fruit and vegetable growers, prices are lower than in Olsztyn. But why are they lower along the coast than in Olsztyn? This is difficult to explain. On 13 July of this year I conducted a price comparison in Gdansk and in Gdynia, and on 14 July in Olsztyn. These are the results obtained: strawberries were 90 to 100 zlotys per kg in Gdansk and Gdynia, and 100 to 110 zlotys per kg in Olsztyn; red cherries were 160 zlotys and 180 to 200 zlotys per kg, respectively; tomatoes, 200 zlotys per kg and 230 to 260 zlotys per kg; cucumbers, 120 zlotys per kg and 130 to 150 zlotys per kg; potatoes, 25 zlotys per kg and 35 to 40 zlotys per kg; cabbage, 15 zlotys per kg and 20 to 35 zlotys per kg; and radishes, 20 zlotys and 25 zlotys per kg, respectively.

It appears that the relatively high prices in Olsztyn are the result of a lack of good competition. Private businesses in this field hold a dominant position in the flow of these goods to the marketplace. Fruit and vegetable stores which belong to gardening cooperatives deal more in processed fruit and vegetable products than in fresh goods. The PGR [state farm] plant in Legajny is trying to introduce a certain amount of competition through its network. However, it cannot influence decisively the level of prices on the Olsztyn market.

The need for competition also exists in the area of services and in other areas of our life. For example, the Olsztyn firm Spomasz had an agreement with the Municipal Management Enterprise [PGM] for garbage removal. It was agreed that in theory one container of garbage would be picked up daily. In point of fact, however, this amount was removed only once every 2 weeks. The cost of this garbage removal service came to 56,000 zlotys a month. After a certain period of time, Spomasz canceled the contract and decided to remove the rubbish on its own. It turned out that a garbage dump and to be furnished for this purpose since the PGM refused to sell coupons for the use of the municipal dump. There is nothing like occupying a dominant position.

We are just at the start of the road to breaking down monopolistic positions in our economic life. This will be a long and difficult road but one that is necessary to take.

9853

CSO: 2600/1221

## KATOWICE FIGURES OMITTED FROM GUS CAPITAL SPENDING REPORT

Katowice TRYBUNA ROBOTNICZA in Polish 11-12 Aug 84 p 3

[Article by Jozef Heblinski: "Capital Spending Boomerang"]

[Text] The topic of capital spending in the national economy returns with specific frequency just like the proverbial boomerang. In drawing up quarterly, semiannual and annual balance sheets on the functioning of our economy, we notice that this capital spending boomerang is beginning to hit us with increasing intensity.

It had appeared that after the collapse of the capital spending economic situation of the 1970's, we had learned a bitter lesson and would devote considerably more attention to this complex subject, above all so as not to allow for another distension of capital spending.

However, the steps taken thus far by the economic center are not bringing about the anticipated results. The capital spending potential, restricted by the crisis situation, was not and still is not capable of meeting all of the continued and newly begun investments. Consequently, a permanent state of dispersion of the already meager funds is being created and the implementation of particular objectives is prolonged. The efficiency of capital spending processes, though never high, is undergoing further deterioration.

Let us recall that last year [1983] we spent 1,293 billion zlotys on investments. Thus, the amount accepted by the CPR [Central Annual Plan] in 1983 was surpassed by 204 billion zlotys. For this year, however, a drop of 5.7 percent in capital spending outlays has been envisaged in the CPR.

In analyzing the GUS [Main Office of Statistics] report on the socioeconomic situation in the country during the first half of this year, we come to the conclusion that there have been no changes for the better on the capital spending front. In fact, the situation is becoming even more complicated. The capital spending outlays during the first half of the year, in terms of comparable prices, were 15 percent higher than during the first half of last year. It is evident from this that halfway through this year and throughout the entire 3-year plan, the capital spending boomerang



is constantly spinning and hitting the economy with heavy blows. First of all, this boomerang is successfully keeping up inflationary trends and, consequently, market imbalance. It is already certain today that it will not be possible to adhere to the amount of capital spending envisaged in this year's central plan. Therefore, it only remains to argue about how much this amount will be surpassed. According to estimates, however, it is to be lower than the amount surpassed last year and should come to approximately 140 billion zlotys. However, this cannot be taken as a positive fact.

Over 80 percent of the amount that exceeded the capital spending outlays this year is due to the significantly higher than anticipated scale of construction-assembly work. The surpassing of outlays concerns mainly the capital spending of enterprises. In other words, we have repeated last year's old "sins."

It is a kind of paradox that practically all the managers of enterprises are complaining about capital spending restrictions and the resulting lack of possibilities for increasing production. However, the fact of the matter is that the concept of a "new investment" is understood by many managing directors solely as the erection of new production halls, which are sometimes built with expansion in mind, and the construction of adjoining buildings. In this way, the period from the time that money is invested to the obtainment of actual production results must take several years. On the other hand, we seldom see, for example, the adaptation of already existing factory buildings to new purposes. We also seldom come across situations where more modern and more productive technological lines are being installed in old halls.

Last year in the province of Katowice, a total of 5,266 capital spending tasks were implemented within the framework of the central, local and enterprise plans for a total value of 886 billion zlotys. This sum was supplemented by 44 billion zlotys allocated for investment purchases. As much as 81 percent of the outlays were directed toward construction-assembly work. Last year in Katowice Province, 1,615 newly-begun investments, i.e., approximately 30 percent of the overall number of investments, were introduced into the local and enterprise plans. These are mainly enterprise investments. Unfortunately, the share of modernizing tasks in them last year amounted to barely 10 percent.

It is only fitting this month to inform the reader about the capital investment situation in Katowice Province, since this is the end of the first half of the year. Unfortunately, this data is still being worked out at the WUS [Provincial Office of Statistics]. Therefore, it remains a mystery on what basis GUS set up the data concerning the capital spending situation in the country. After all, our region plays a significant role in the area of capital spending. Let us recall that the GUS report on the socioeconomic situation in the country appeared in the mass media on 26 July of this year.

What can we expect in the area of capital spending next year?

The assumptions of the central plan for next year which have currently been turned over for social consultation envisage a formulation of the assumptions of the capital spending plan that would minimize the amount exceeding the outlay level in relation to the values established in the NPSG [National Socioeconomic Plan] for 1983-1985. In taking into account the fact that the surpassing of outlays is concentrated in, above all, construction-assembly work, the presented assumptions envisage the reduction of the level of these outlays to a value determined in the CPR for the current year, i.e., 100 billion zlotys lower than the envisaged implementation during the current year. However, in relation to this year, investment purchases of machinery and installations are to increase.

These main assumptions of next year's capital spending plan must be concretized locally. For this reason, "turmoil" in capital spending will, in my opinion, increase.

It follows from explanations obtained from the Provincial Planning Commission in Katowice that restrictions will affect the capital spending of production enterprises in whose structure outlays for construction-assembly work are dominant. It is worth stressing that the planned capital spending restrictions will not encompass outlays intended for the needs of education, the health services and a broadly understood technical infrastructure. It should be expected, therefore, that the envisaged capital spending cuts will not delay the rate at which the living conditions of the inhabitants of Silesia will improve. Whether the government plans envisaged for the coming year will weaken the capital spending boomerang is something that will be shown in full by the final results of the 1983-1985 3-year plan.

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## PLANNERS URGED TO DROP BIG, IN-PROGRESS CAPITAL PROJECTS

Warsaw ZYCIE GOSPODARCZE in Polish No 34, 19 Aug 84 pp 1, 6

[Article by Teresa Gornicka: "Draft Plan for 1985: The Investment Choices Have to be Made"]

[Excerpts] The proposed draft plan for 1985 reflects the whole complexity of the field of investments. Suffice it to compare the amount of capital needed to complete the continued projects--estimated, as of the end of 1984, at more than Zl 4 trillion at plan prices--with the Zl 1,425 billion earmarked for capital spending next year. The conclusion can only be one: there are no options to choose from, there is no room for any adjustment of the structure of investment to current requirements, and in fact there are no chances for completing the projects underway within any reasonable period of time.

## The Safety Limits

The investments jan cannot be disloaded quickly, by earmarking for this purpose a greater share of national income. This, it seems, is obvious to everybody. Even if an opposite view can still be heard sometimes, it is based on one-sided arguments. It is true, the modest level of investing carries negative consequences for the future, the consequences which today can be clearly seen in many areas. But there are safety limits here, and they can be easily transgressed. Under the pattern of national income division into investment and consumption, as adopted in the National Socio-Economic Plan [NSEP] for 1983-1985, consumption, too, is to run at a very modest level--the level which no-one would degree to reduce further. Against the NSEP target of the 15.4 percent share of investment in national income in the 3-year period, the proposed next year's target is slightly raised to 15.5 percent.

Also, the pattern of spending for individual socio-economic complexes in 1985 is set in accordance with the NSEP. Out of the total spending, the food-producing complex is to absorb 30 percent, or the same as provided for in the NSEP for the whole 3 year period, the housing complex 32.2 percent (or slightly more than in the NSEP), including 25.7 percent for housing construction, and the fuels/energy complex 12.5 percent, against the NSEP target of 14.3 percent. What remains for all other investment projects is 25.4 percent of the total, which is long known to leave only a small margin of investing in the remaining sectors of the economy.

There is no shortage of critical opinions about the separation in the plan of these investment complexes, which are said to be artificial creations making the plan still more rigid. These reservations, made for a variety of reasons, do not always comply with the public interest. Naturally, it can be argued if the separation of these complexes creates authentic investment facilities for the pursuing of the most important social goals, such as feeding the nation and improving its housing conditions, but it cannot be denied that this imperfect solution is better than none at all. As shown by past experience, these two social requirements were always pushed to the background, and finally abandoned, in the past—when we had a plentitude of correct and ambitious goals.

### The Lost Criterion

It is known that we cannot invest beyond our means and that investment policy must not lose sight of its most important social goals, but it is equally well known that the preservation of status quo in investments may bring about unpredictable consequences. Today, we have to answer the question of whether or not the projects absorbing our modest investment resources lend support to the anti-inflation measures, improve the provision of production supplies to the economy, help maintain the productive potential in working order, stimulate greater initiative (e.g. by lowering the raw-material and energy content of national product), etc. In other words, with all the constraints and problems inherited from the past, it is the criterion of efficiency that counts today more than ever.

If we failed to disload the infamous investment burden in the past, then now. At the middle of the 3-year plan period, it is important what progress is being made, amidst huge capital-intensive projects, by small-scale short-gestation, quick-return ventures. In other words, the attention is now focused on this part of the proposed draft which concerns enterprise investing. It is only the enterprise projects which hold out hopes of step-by-step improvement of production structures, narrowing of production-supply gaps (stemming, among other things, from import cutbacks), and of a modicum of progress in modernizing the technological processes now in use. If we cannot afford transforming the existing structure through giant projects adjusting the economy to the changed conditions, then this is the only way that promises some progress. How is this tackled in the proposed draft plan for 1985?

As is known, the overall investment spending is to drop next year by Zl 100 billion, or 6 percent, from the expected 1984 figure. But this decline does not spread evenly in all groups of investment. Central projects are to absorb 13 percent more funds, and for the group of central projects listed individually in the plan, the increase is by 17 percent. Also growing, by 6 percent, will be the spending on investment projects of local authorities. But it is proposed that projects of state enterprises and cooperatives be assigned 20 percent less resources. This testifies to the failure—as early as the planning stage—of earmarking more resources for ventures which are most desired at the time of crisis, and which may bring effects most quickly.



Enterprise investing has long been accused of not only surpassing the quantitative targets but also of having distorted structure. Both last and this year, the spending on construction/assembly operations in this group was indeed higher than planned—which is wrong under any circumstances. As a result, the clouds gathering over enterprise projects are getting stronger, and criticism is growing. Among other things, this reflects the nervousness over the financial possibilities of enterprises. Their development funds totaled Zl 601 billion in 1982 and Zl 906 billion last year. This year, the figure is expected to top the Zl 1 trillion mark. This, when coupled with the 8 percent increase inspending for projects provided for in the Central Annual Plan (CAP) for this year, leaves the total of Zl 300 billion in "investment overhang," or the investment funds for which there are no equivalent physical resources (assuming that the plan is honestly balanced).

So the enterprises with spare funds at their disposal cannot spend them for replacement or modernization, which poses a danger of disinvestment growing still further. The overhang of hot investment money is increasing by the year, generating a pressure for the capital goods market, already drained by the huge projects.

#### Secrets of the Aggregate

As far as the proposed targets for 1985 are concerned, there is no need to worry about the share of enterprise investments in overall spending. Against this year's proportion of 49 percent, it is planned at 42 percent in 1985, or still at a high level. This share might be considered rational if only the figure were true. As is known, however, this planning aggregate hides a number of still undisclosed secrets. It includes various kinds of projects which have only loose connection with enterprise investment *sensu stricto*—both as regards the decision-making level at which the go-ahead was given, and the sources of financing. This is being attributed to some leftovers from the past. The criteria applied in the division of the continued investments (i.e. those started before 1982) into the central and the enterprise projects were very flexible. As a result, the group of enterprise projects includes ventures of structural importance, with all consequences of such classification, such as the need for external (read: budgetary) funding. These are as a rule huge investment projects, aimed for the most part at the production of capital equipment, technical infrastructure, or even raw materials. Examples include the construction of the Siroszowice copper-ore mine with the cost-estimate value of Zl 21 billion, of the Pruszkow II power station, costing Zl 20 billion, and of a Zl 6 billion dairy in Chorzow. Dozens of such projects, with the cost-estimate value ranging between Zl 2 billion and Zl 22 billion, were classed as enterprise investments.

It might have been expected that this was a transitional arrangement, that the situation would clarify in step with the completion of successive undertakings, and that the discussed group would finally include only those projects which are launched at the costs and risk of the economic organizations concerned. That would have provided conditions for opening the field of economic game throughout the whole system of the functioning of the economy.

### Squeezing Out the Little Ones

Today it is known that these were premature hopes. Rather, the present course of affairs suggests that the target shape is getting more and more remote. The completion of giant projects, costing billions of zlotys and often build inefficiently, will take several years. It is true that under a decision taken last March, credit agreements are dissolved for investors failing to meet contractual terms and to guarantee project completion by 1986, but this has eliminated only a small group of continued undertakings. One reason behind this was that some projects in the so-called fuels/energy complex were excluded from the newly-imposed regors. Banks revoked 125 credit contracts for investments with the combined cost-estimate value of Zl 64 billion--a rather token amount in terms of the national economy as a whole.

There is no expecting any let-up in the drain on investment expenditure by big projects, the more so as this group was joint last year by new potentates, investing in new, capital-intensive projects financed from various industries' centralized funds. According to data obtained in the National Bank of Poland (NBP), of the Zl 346 billion worth of new projects launched last year by enterprises, as much as one-third (in terms of cost-estimate value) are big ventures, costing on average Zl 1.5 billion each. They were started primarily in the coal, power, and engineering industries--at the initiative and under the pressure (so the bank says) of respective parent bodies. A major impact on the lines of investing and on the high capital-to-output ratio in this group was exerted by central decisions initiating programs on the development or modernization of some industries.

If it is this great scope of newly-launched capital-intensive projects that has induced the unwelcome shifts in the pattern of spending, then the blame for inflating the expenditure on pure construction operations have to be taken out of the enterprises. While it is true that the quoted information concerns the last year (data for 1984 will be available later), a note of warning is needed against all kinds of generalizations, attributing all evil, inflation included, to enterprise projects. Even if one opinion is shared by two persons, this does not mean that a search for truth should be abandoned. For the time being, however, knowing very little about enterprise projects *sensu stricto*, we have to settle for guesswork. Why these projects are not distinguished as a separate item in statistical reporting is not known and hard to understand. This blurring of the real picture serves interests of no-one. If more light were thrown on the problem, the actual position and role of enterprise projects in the economy could be learned, and--most important--groundwork would be laid for a coherent policy in the field, drawing on properly designed instruments to stimulate efficiency.

### Rational, Against All Claims

What should be learned in the first place is what the enterprises spend the money for, and whether their projects are indeed of primary importance, considering the very tense situation in the market for investment goods. Do the enterprise projects serve those goals to which the scarce investment resources should be allocated in the first place? After all, one could agree with the

argument [brought forward by the Planning Commission] that the number of machines produced domestically and imported can be counted and that there is a danger that the funds exceeding their value in the sphere of production-oriented investments may be spent on the construction of projects that we could well do without at present.

But these fears were not supported by findings of various studies conducted last year—also by the Planning Commission's National Economy Institute (IGR)—and published in ZYCIE GOSPODARCZE. True, these were fragmentary studies, but together they fully confirmed the results of a comprehensive analysis of all enterprise investment projects in 1983, conducted by the National Bank of Poland.

As shown by these studies, if 85 big projects absorbing among them Zl 126 billion were shorn out of the group of 19,851 projects with the combined value of Zl 346 billion, undertaken by enterprises last year, then it would appear that the remaining 19,766 ventures are of small scale, worth Zl 11.1 billion on the average.

In industrial units, reads the NCP analysis, these funds were spent for small modernizing measures at production departments (in order to keep them going) for an improvement in energy consumption, in-plant transport and storage, for upgrading occupational safety, and for adapting facilities at abandoned projects for production and general purposes.

At transport enterprises, this spending went for the installation of interlocking frames and railroad platforms, exchange of signalling gear, the laying of rails, modernization of roundhouses, and construction of storage facilities and fuel depots.

In agriculture and the food-processing industry, the discussed investments were aimed at raising consumer production, expanding farm services, saving energy (e.g. in sugar production and fruit/vegetable processing), and construction of small facilities, mostly for the handling of livestock feed.

And finally, trading enterprises used their investment funds for the construction and modernization of stores, and upgrading of bakeries and storage facilities.

In conclusion of the quoted report, it is stated that nearly a third of the program of new investments in this group are replacement and modernization projects with low share of construction/assembly operations. This was the case with 9,150 projects with the combined cost-estimate value of Zl 118 billion. And the bank found 10,770 projects worth Zl 110 billion to comply with centrally preferred directions of investing.

#### Choosing A Lesser Evil

Hopefully, the public consultation over the 1985 plan will provide an occasion to broaden the knowledge about enterprise projects, and about their role in concrete situations of individual factories and enterprises. But the brutal



truth is that pushing them into the next year's plan will be no easy matter. With the structure of projects underway overwhelmed by capital-intensive, long-gestation ventures (also in the group of enterprise projects *sensu largo*), they are facing a danger of being squeezed out into the sidelines for several years to come. Given the low efficiency of the investment construction process, we will have to wait for the completion of projects now underway till the middle of the next 5-year plan period (1986-1990)--and this provided that no major investments are launched in the meantime, which seems unlikely in the light of experience gathered in the past 2 years.

But even if this assumption were realistic, this would solve nothing. With their present structure, the investments are a burden that can be borne only with great difficulty--even despite their relatively low share of national income. Their effects are shifted well into the future, and in the meantime they are going to steadily intensify the inflationary processes, which is the opposite of the overriding economic policy goal of restoring the equilibrium. The current discussions over the rate of investment as a proportion of national income are in fact tantamount to discussions over the structure. Any shift towards small-scale, quick-return ventures has the effect of raising the safety limits for the share of investments in national income, without threatening the consumption.

The year 1985 will not only close one of the most boisterous periods for the Polish economy. It will also provide a point of departure for the next quinquennium. Viewing the draft 1985 plan from this angle, it must be stated that this starting point will be loaded with all burdens inherited from the past--with unresolved structural problems, with the disorganized project--building processes (coming as a result of excessive dispersal of investments), and with the dramatic chasm between the goals which investments are supposed to prop up on the one hand and the chaotic course of events in this field on the other.

So the question of what to do with investments is emerging again, this time as part of consultation over the next year's plan. And we can ill-afford dodging it, unless we want to prolong the present dangers.

Two possible scenarios can be discussed here. The first option is to halt some big projects which absorb concrete amounts of investment resources, thus giving way to all those small-scale, quick-return ventures contributing to production growth and efficiency improvement. The other option is to apply stringent systemic measures against the creation of investment demand, accepting the multiple risks of such a step, but also making the plan targets more realistic, without the danger of exceeding the amount of funds needed for the attainment of these targets.

Both ways involve losses. But the goal is that the lesser evil be sought, by narrowing the area of possible adverse consequences of curbs on the investment impetus. And today, such a lesser evil can only be the abandonment of some big projects--by painful cuts which could not be made with consistency in the past 2 years, despite the full determination on the part of the economic decision-making center, and despite its correct assessment of the consequences of the maladjustment of investment projects inherited from the past with the requirements of the economy in the 1980's.

Without going into a detailed analysis of this failure, it can be concluded that this is a very difficult operation, meeting strong resistance and provoking various kinds of defense reactions which, as is known, vitiated the whole effort expended in the 1982 general review of investment projects. Most of the projects halted as a result of the review, were subsequently resumed, or are waiting for resumption in the years ahead, including the next year.

Unless the decision to halt big projects is made, we will be left with the other option, which boils down to taking over the money accumulated in enterprise development funds. There can be no doubt that with the present dispersal of investments, these funds constitute a real danger to a disciplined implementation of plan provisions.

The technicalities involved can be handled by various means--by changing the income-tax parameters, altering the pattern of depreciation-fund division between the enterprise and the budget, or--in the Hungarian fashion--by taxing the investment spending in the part covering the construction/assembly operations. And in this dramatic situation, an argument over the systemic arrangements of reform--is not the most important matter. What is important is the consequences of such line of action.

As for general consequences, it will represent a further retreat towards highly capital-intensive pattern of investing, a petrification of the dominance of big projects, and an abandonment of benefits offered by the most efficient projects--with all its consequences for production, inflation and disinvestment.

Also, there is no way of avoiding the consequences in the sphere of motivation, in its widest sense. A blockade of investment opportunities will have the effect of weakening interest in expansion, and hampering the process of identification of self-managing economic entities with the requirements of the future, shifting their attention to short-term advantage. But the choice has to be made. It is to be hoped that the consultation of the provisions of the investment plan for 1985 will throw light on the assumptions which will determine this choice.

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## FLAWS IN 1985 PLAN FORMAT, CONSULTATION AGENDA CITED

Warsaw ZYCIE GOSPODARCZE in Polish No 34, 19 Aug 84 p 6

[Article by Andrzej Wroblewski: "Draft Plan for 1985: Dilemmas"]

[Text] The proposed draft plan for 1985, just published and submitted for public consultation carries an interesting presentation of the determinants of our economic situation, with the extrapolation of possible economic development in 1985. But it seems purposeful that, as part of discussion over the next year's plan, some problems considered whose solution will be of major importance not only for 1985 but also for a more distant future.

If the development processes in the economy are to be accelerated further, it is imperative that much deeper structural changes be launched, especially those aimed at the removal of the existing barriers to growth. The major problem here is the mutual adjustment of the manpower resources, the raw and intermediate materials, and the existing productive potential. This process has to be carried out with limited investment resources, which renders impossible the building of new potential from scratch.

In these circumstances, the only way out is the liquidation of this part of the productive potential which features the least efficient utilization of resources. This way involves the solving of numerous social dilemmas. The public consultation over the proposed plan targets offers an ideal occasion for discussing these dilemmas.

However, despite many requests and announcements about the need to take this road, no practical steps have been taken so far. Barring general slogans, a pragmatic concept has yet to be worked out. Still worse, a concerted effort can be seen in practice for the maintenance of the existing potential at any costs—even at the price of wasteful use of resources.

An almost classical example is offered by the policy pursued in respect to the cement industry. With substantial overcapacity, it comprises plants with very high cost differentials, especially as regards the cost of energy per unit of production. Some factories, with sophisticated technologies, are in the top table of the socialized sector's profit-makers, while other ones report huge losses, covered by the industry's compensatory price account and by successive price rises, affecting the costs of construction operations.

The elimination of those plants which are deeply in the red would make it possible to check the increase in prices and to earmark resources necessary for modernization and expansion. The failure to take up this problem affects not only the cement industry, but also construction, the labor market, the country's fuels balance-sheet, and the structure of investments.

In a broader context, such a situation brings about many adverse economic and social developments, and in particular it restricts the room for economic maneuver.

A major dilemma of our economy is that of manpower shortages. No matter how one assesses labor productivity and the pattern of employment, these are real shortages, coming as a result of the overall technological and organizational level of the economy. Neither the demographic nor the social situation offers any chance for such an increase in manpower resources which would meet the requirements of the existing productive potential. This situation leads to very adverse developments.

One of them, raised universally and in the public, is the decline in work discipline and rise in labor turnover. But the discussed situation exerts still greater influence upon the acceleration of inflation and disharmonization of economic processes.

The continuing shortage of manpower results in fierce wage competition among enterprises. Also drawn into this competition is the center--through the system of FAZ rebates and preferences which set in motion manpower transfers and initiate the process of structural changes. But because the relevant decisions are not accompanied by decisions about liquidating those enterprises from which the labor outmigrates, there develops a spiral of concessions and preferences.

Clinical examples of this can easily be found on the map of Poland. There is, for example, a small industrial center dominated by three economic organizations--a large exporter, a cottage-industry organization, and a mining company. All three of them are granted preferential treatment under the FAZ system. In effect, despite huge wage dynamics, their employment situation and capacity utilization remain unchanged.

Such developments will be growing upon the completion of projects now under construction. Here, an example can be provided by the Warsaw region in connection with the expansion of the tractor industry (Ursus). The industry's demand for more labor will speed up the wage race and the race for preferential treatment--even though a portion of enterprises in the region have no prospects for development, for lack of either production supplies or investment resources. The only way of solving this problem is by eliminating selected enterprises.

The elimination of selected enterprises from the labor market should also solve other problems in the economy, e.g. by making possible the concentration of investment resources in the most promising enterprises, by cutting the demand for scarce materials, etc. This requires that relevant variants be worked out in detail (e.g. the tractor industry vs the FSO [car] factory). Similar problems afflict other regions and branches of the economy. The textile industry, for example, is marked by territorial concentration and by general underutilization of capacity. This will not be solved by additional preferential treatment.



Another problem has to do with the construction sector, where cost differentials among individual enterprises are very high and where the concentration of housing investment in accordance with the criterion of efficiency has yet to be made.

Dilemmas of this kind appear in every branch and every region. Their solution constitutes an elementary condition for the launching of structural changes and for a major increase in economic efficiency--and the place where they should be presented is the national plan.

Another area in question is that of investment. Here, there are some contradictions in the Planning Commission document. On the one hand, mention is made of the necessity of accelerating technological change at enterprises as a condition of more efficient utilization of raw and intermediate materials, but on the other the scope of enterprise investing is planned to be reduced and spending on machinery is to be stabilized.

Meanwhile, enterprises complain that the major barrier to technological change--already now--is posed by the limited investment capacity. Increased spending on research alone, without increasing capital expenditure, will not bring about improvement on the application front. The most rational solution, again, would be to scale down the scope of investment in individual areas, by eliminating the least efficient units.

I outlined only some problems which should be taken up by the central planner and whose proposed solution should be submitted for public consultation as part of preparation of the central plan. I also pointed to some lines of solving these problems and, it seems, I should have presented the dilemmas involved. But I think that the inclusion of these problems into the central plan and the presentation of the central planners' attitude towards them constitute an indispensable element of the process of socialization of planning on the one hand, and a condition of effective control over the country's socio-economic development on the other.

Against this backdrop, some remarks may be formulated about the methodology of preparing the planning materials for public consultation. The consultation should make it possible to learn the position of various social groups on the possible lines and methods of economic development. To this end, it is necessary that the materials for consultation include those dilemmas of development which are important from the standpoint of the social groups concerned. In practice, each concept of development has the effect of differentiating the situation of individual social groups. And any economic reassessment is accompanied by social reassessments. Ignoring the changes in the pattern of social interests is bound to result in a passive economic policy.

There is also another effect of the approach to consultation proposed in this article. This is the economic education of society, bringing home the fact that economics and planning is always an art of making choices, of choosing one thing at the expense of another.

In conclusion, I want to make two remarks about the presentation of information in the proposed draft plan. The adopted method of comparing the expected 1985

performance only to 1984 leaves much to be desired. The year 1985 is the last year of the 1983-1985 National Socio-Economic Plan. It would be purposeful if the document related the expected 1985 results to the NSEP targets. As things now stand, it is very difficult, upon reading the proposed draft plan, to guess whether or not the NSEP will be implemented.

The other remark concerns the lack of comparison with 1979. It has become a custom of late to juxtapose the current economic performance with the 1979 results, as the basis for conclusions about the degree and pace of recovery from crisis. This practice, incidentally, is followed in various kinds of official documents. The purely formal aspect of this problem is also interesting. In accordance with the Sejm law on socio-economic planning, it is the long-term plan, and any assessments, the public consultation included, should be made in relation to the targets of the latter.

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# HOUSING CONSTRUCTION PROGRESS, PLANS REVIEWED

Bucharest REVISTA ECONOMICA in Romanian No 31, 3 Aug 84 pp 4-6

[Article by Romeo Dragomirescu, vice-chairman of the Committee for People's Council Problems]

[Text] During the 1966-1983 period, 2,037,031 apartments were build with state funds, compared to only about 400,000 during 1945-1965. More than 80 percent of the country's population is now living in new housing units. An apartment is thus being placed in use each three and one-half minutes. Currently, 500 families are moving into new homes every day. At the 1945-1965 construction rate, the present housing level would have been reached only in 2065. The party program stipulates that the housing problem will be fully solved in Romania by 1990.

With its profound effects on the standard of living of workers, the construction of housing and sociocultural facilities is a major objective in our party's policy to systematically raise the material and cultural standard of living of the entire population. During the 40 years since the antifascist and anti-imperialist revolution for social and national liberation of 23 August 1944, and in particular after the Ninth Party Congress, the urban improvement of our country's cities and towns was profoundly shifted toward a new, modern appearance, diametrically opposed to the situation that existed during the bourgeois landowner regime.

Engaged in asserting our country's socialism, the party has made one of its priority objectives the improvement of the population's housing conditions, to closely match the country's socioeconomic development, its demographic evolution, and the demands of the workers. This objective has consistently been reflected in the party's policy by a strong growth, from one five-year plan to the next, in the number of housing units built by the state and from the population's private funds.

Concurrent with meeting the quantitative housing demand, a constant concern of the party and state leadership, and of Nicolae Ceausescu, has been to improve the quality of this housing by increasing living areas and the extent of modern installations, thereby substantially improving confort. The activity



of builders and city planners has been oriented toward new types of apartments appropriate for various family structures, with more rooms and endowed with all the installations necessary for comfort and for recovering the strength to work. Together with this, the orientations have also been aimed at improving the architecture and urban settings of housing complexes, through better details and compositions of major complexes and of traffic routes in localities, as well as through better designs for housing and sociocultural buildings. Due to these orientations, our country's localities have acquired a new aspect with a modern and varied architecture.

In 1983, the total number of housing units was twice as high as the 1945 figure, about two-thirds of them having been built after that date. In urban areas, the number of housing units increased by a factor of three during the same period, about three-fourth of them having been built since 1945. Simultaneously, during the period following 1966, with a two-fold growth in the urban population, housing density indicators (number of housing units per 1000 inhabitants and number of persons per room) have also progressed substantially. Today there are 328 housing units per 1000 inhabitants compared to 186 in 1945. Due to the high rate of housing construction in Romania, a rate that exceeds that of many European countries, the housing situation in urban areas has improved significantly, with an average of 327 housing units per 1000 inhabitants, a figure sufficiently high to assure the housing of each family in its own unit.

As the urgent housing needs were being met, functional and comfort improvements were introduced to satisfy the growing demand of workers and families with many children, in parallel with the adoption of building methods and technologies leading to savings of material resources, energy, and manpower. Thus, through the care of the party leadership and of Nicolae Ceausescu personally, new, larger areas were approved during this spring for some types of apartments, and measures were taken to improve the thermal insulation of housing units, so as to obtain significant fuel savings and implicitly, to reduce the maintenance costs supported by those who live in them.

Significant emphasis was placed on organizing housing rationalization, an extremely important action both for the population's sociocultural life, and for the development of production forces. The major concern in rationalizing the housing has been to organize production zones and work sites on one hand, and to correlate to these areas the development of housing units, sociocultural buildings, and modern technical city facilities. Particular attention was devoted to economizing and protecting the land and the environment, so that industrial zones and localities will be developed with savings of natural resources, while meeting the material and cultural needs of the population and families, as well as conserving the environment.

While the number of urban localities grew from 152 to 237 as a result of the country's industrialization process during the 1945-1984 period, and while their population tripled, investments in the housing and sociocultural area substantially contributed to the even greater increase in endowments for these localities.

Among the outstanding achievements of which socialist Romania is proud today, are not only the large housing complexes in Bucharest and other cities, but also the major buildings of our industrial architecture, with their remarkable functional and design values, as well as the large construction projects on the Romanian Black Sea coast, impressive both in terms of their urban and architectural concepts, and in terms of their building technologies.

Many sociocultural and other objectives in Bucharest, the Multipurpose Hall of the Palace of the Republic, the Sports and Culture Palace with its housing units, the Romanian Television Complex, the Concert Hall of Romanian Radiotelevision, the Otopeni Airport, as well as the first two sections and stations of the Bucharest Metro, are buildings of high technical complexity and outstanding beauty, built entirely by Romanian workers. Added to these are hospitals for many specialties, a large number of kindergartens and child care centers, as well as intermediate and higher education facilities, each of which represents an objective of great social importance.

Also notable are the representative centers of various cities, which include new housing constructions with commercial and service areas at street level, as well as cultural and sociocultural buildings, among which are those of Alexandria, Baia Mare, Bistrita-Nasaud, Iasi, Pitesti, Piatra-Neamt, Ploiesti, Rimnicu Vilcea, Suceava, and Vaslui. Added to these are the Craiova and Tg. Mures theaters, the new railway stations and housing clusters built in Brasov, Constanta, Craiova, and Predeal, the sanatoriums and hospitals of Caciulata-Calimanesti, Covasna, Baile Herculane, Singeorz-bai, Amara, Baile Felix-Oradea, Slanic-Moldova, Sovata, Eforie Nord, Mangalia, Techirghiol, and so on.

The housing construction dynamics have been supported by the concurrent development of construction units under the jurisdiction of people's councils, the consistent economies of material resources and energy, and the continued growth in labor productivity. In order to accelerate the rate of construction, new, highly industrialized construction systems were developed, and greater use has been made of fully prefabricated and advanced technology systems.

By developing industrialized construction systems and adopting a corresponding height level, by intensifying calculation methods and designing simpler construction details appropriate to the characteristics of construction sites, and by using more efficient materials produced by the national industry or locally, the designers and builders of housing and sociocultural units have successfully and steadily reduced the consumption of materials, manpower, and energy necessary for these objectives. The new housing will require nearly 25-30 percent less fuel for heating in cold weather, while providing better comfort, due to improved thermal protection for buildings. The construction units of people's councils grew together with the growth in investment volume, being endowed with prefabrication shops, production facilities, high productivity equipment, and means of transportation. A decisive role in this process was played by the construction materials industry which has increased and diversified its production, without however succeeding to satisfy the demand for efficient heat insulating materials with low incorporated energy, as well as for other necessary products such as lightweight partition walls.

The task of solving the housing problem in general terms by 1990, as outlined in the program of the RCP for Building a Socialist Society and Advancing Romania Toward Communism, has been solved quantitatively for the country on the average, and for most localities. But this does not mean that the construction effort will slacken during the next five-year plans. A first objective will be to build during the next 15 years about 2.5-3 million housing units intended to cover at first the shortage existing in some localities, but mainly to provide housing for new families in keeping with demographic growth, and to replace inadequately equipped buildings or buildings constructed with short lived materials, which are left over from the old housing fund. Together with this new construction, it will be necessary to develop technical city facilities and upgrade those whose capabilities are still inadequate, as well as to provide adequate sociocultural buildings for the population.

But compared to the construction activity of the past decades, whose immediate objective was to provide housing as urgently as possible, the emphasis in construction--as well as throughout the economy--during the next 15 years will be on a transition to a new quality. Notable in this respect are the recent measures to increase, as of now, the area of housing units and ancillary rooms, and to improve the thermal insulation of buildings. But the major qualitative objective will consist in improving the existing ratio of 1.36 between the number of persons and the number of rooms in an unit, so that around 2000, this figure will approach 1.0-1.1 in the majority of urban localities; for this, the new housing that will be built during the next 15 years will have to consist primarily of apartments with 3-5 rooms, so as to provide a suitable quality for families with many children. Another objective, which given the effort being made to close the gap between the existing and the required number of housing units, has been achieved only in a small measure, will be represented by the upgrading and modernization of the existing old brick and reinforced concrete buildings constructed before 1950, as well as of some constructions built subsequently.

One action which will be strongly developed in the future, will be the improvement of thermal insulation for all existing housing units, and the expansion of solar heater installations for household water in these buildings, measures designed to reduce fuel consumption and thus contribute to the country's energy independence. Finally but not last, the quality of finishing and installations will be improved during the next five-year plans, through the production and utilization of new materials with higher reliability and easier maintenance.

To fulfill these objectives, and primarily those concerning modernization, upgrading, and finishing reliability, construction enterprises will have to acquire new low mechanization equipment specific for the new projects, and improve the qualification of workers, so that they can form comprehensive and multi-qualified teams without which upgrading projects cannot be carried out under good quality and productivity conditions. In parallel with this, the design and construction units under the jurisdiction of people's councils will continue to improve the organization and management of planning and execution processes.

The fulfillment of provisions for the construction of housing and sociocultural units, established by the 12th Party Congress and the National Party Conference, will be a significant qualitative leap in assuring better living conditions for the entire Romanian population, and in raising the standard of material and cultural life for our people.

11,023

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## DEVELOPMENT OF ELECTRICAL ENGINEERING, ELECTRONICS INDUSTRIES

Bucharest REVISTA ECONOMICA in Romanian No 31, 3 Aug 84 pp 7-9

[Article by Alexandru Necula, minister of the machine tool, electrical engineering, and electronics industry]

[Text] Today, the electrical engineering and electronics industry is a powerful branch whose production is constantly expanding and diversifying. It can be rightly said that the birth and development of this branch is the result of the RCP's policy for socialist industrialization. In 1945, Romania had eight electrical engineering units and one in electronics; in 1983, however, there were 64 such units, nine of them institutes and centers for scientific research and technical engineering.

Year after year, the electrical engineering and electronics industry has achieved high rates of development, higher than those obtained for industrial production as a whole. The 1966-1980 period can be considered as the stage for a huge investment program which included the establishment of new units, the development and modernization of existing ones, as well as an expansion of the research, design, and technical engineering base in institutes and enterprises.

This production growth was a natural consequence of the increasing penetration of electronics and automation in all branches of the national economy. To develop the electric power sector for instance, the fabrication of high voltage electrical equipment was expanded into a broad line that includes oil switches, load separators, transformers, and so on. The efforts made to build in Romania, the equipment necessary to develop the electric power sector can be illustrated by the following stages: whereas until 1955 Romania manufactured only equipment (transformers and instruments) rated for a nominal voltage of 35 kV, during the 1965-1967 period these ratings reached 220 kV, and after 1970 the products included equipment for 400 kV.

The electrical engineering and electronics industry has supplied and continues to supply the other industrial branches with a number of products and equipment. It is known to have participated in the endowment of cement plants, refineries, furnaces, food and light industry factories, and more



recently, of nuclear power plants. It provides all the electrical equipment, consisting of more than 200 products, for the truck, tractor, and automobile industry. In railway transportation, the electrical and electronics industry participates primarily with diesel-electric and electric locomotives, supporting all the passenger and freight traffic with such equipment. In telecommunications, it operates the plant for automatic telephone exchanges, electrodynamic signaling equipment, and so on. A number of products, such as measuring instruments, automation panels, radiocommunication and closed circuit television systems for various applications, electric motors, and many others, are intended for all branches of the national economy.

The electrical engineering and electronics industry underwent a strong surge especially following the Ninth Party Congress, which opened a new era in the country's development. Significant changes in the country's socioeconomic development and in its implementation brought about a profound reassessment of the importance and role of technical progress in Romania's overall development. Based on the indications provided by the secretary general of the party, and on the tasks outlined by the Ninth Congress, a clear policy was established to increase the rate of growth and diversification of production in the branch. Given the insufficient development of electronics, particularly for industrial applications, measures were taken beginning in 1966, assigning priority to the development of this sub-branch. New industrial units and research institutes were formed as part of a transition to an industry for professional electronics. An important role in this respect was played by the Program to Endow the National Economy with Modern Computing Equipment and to Automate Data Processing, which was formulated under the direct guidance of the secretary general of the party, thus laying the basis for the domestic production of professional electronic equipment such as third generation computers and integrated circuits. New enterprises and specialized departments were created, such as enterprises for automation devices, videotapes, radio and television sets, the Bucharest Enterprise for Industrial and Electronic Measurement Instruments, the Gaesti Refrigerator Enterprise, the Timisoara Memories Enterprise, the Buzau Switch Enterprise, the Pascani Transducer Enterprise, the Buzau Enterprise for Electropneumatic Panels, the Cluj-Napoca Enterprise for Industrial Electronics and Automation Components, and the Bistrita Enterprise for Electrical Products. Established at the same time, were the Electroputere Center for Scientific Research and Technical Engineering for Semiconductors (CCSITS), the Institute for Electronic Research and Computer Technology (ICETC), and the Electrouzinproiect Institute for Power Plant Design.

Due to these measures, the 1965 production level was 41.5 times higher than that of 1945, and the production level for 1984 was 446 times higher than that of the same reference year. Similarly, every period showed an advance in the competitiveness of Romanian electrical and electronic products. The 1970 decade was thus characterized by the development of high power transformer production, and of high and low voltage instruments, the diversification of locomotive production and of household electrical appliances, the complete production of all products required for electrification and 330 MW turbogenerators, the development of electronic measurement and control

instruments, automation devices for industrial process control installations, advanced electronic components, silicon semiconductor devices, integrated circuits for professional radiocommunications, closed circuit television, active electronic components, logic and linear integrated circuits, radiocommunication and radionavigation equipment for ships, computer peripherals and memories, 3.5-generation computers, direct current regulators and transducers, medical instruments, industrial electronics, and so on.

With performances comparable to those achieved throughout the world, these and other products are exported to more than 70 countries. Together with an expansion of exportation to socialist countries, the products of the Romanian electrical engineering and electronics industry have also penetrated other markets (electric motors and cables in the United States and Canada, telephone exchanges and diesel-electric locomotives in Greece, power transformers in Canada and Brasil, and so on).

A decisive role for the development of electrical engineering and electronics is played by specialized scientific research in upgrading and modernizing technologies and products. A major contribution in this respect is being made by scientific research and technical engineering programs, which in a single year, as was the case in 1982, introduced into production more than 1700 new advanced technology and high efficiency products, such as: process control systems for the cement, chemical, and electric power industries, automatic voltage regulators for ship generators, direct current motors for the metallurgical industry, a line of explosion-proof motors for mining operations, and thyristor equipment for oil well drilling installations. Technical preparations are underway for the design and fabrication of equipment for nuclear power plants and for aviation. The exceptional efforts made in research and technical engineering have reduced by nearly one-half the time necessary to place in production some of the more complex equipment.

The research and technical engineering programs assign priority to topics aimed at the adoption of new products that would reduce the country's currency effort and increase exportation. In reducing importations, an important role is played by microproduction activities in scientific research units, which supply a number of highly complex and high technology products, such as: microelectronics tooling, specialized machine-tools, batteries and lamps for the mining industry, and so on. Greater economic efficiency in the electrical engineering and electronics industry has also required the adoption of construction and technical redesign measures, replacement of materials in short supply, miniaturization of unconventional technical processes, and an improved utilization coefficient for metals, which once implemented in the branch's enterprises, will bring them within the consumption guidelines planned for 1985. These steps will primarily reduce the proportion of products that consume energy intensive and imported materials (cables and conductors, electrical insulators, transformers and high voltage equipment, cast parts, and so on). By the same token, they will increase the proportion of products which make better use of material resources, such as devices for electronic automation, computer technology, industrial and professional electronics, and transmission equipment.

The contribution of Romanian scientific research in the electrical engineering and electronics field is also found in the patenting of inventions at home and abroad, inventions which have resulted in products that are heavily exported and have a high technical level, thus making them competitive on international markets. The 27 international patents registered in 1980 grew to 36 in 1983, and the currency obtained from the exportation of these products increased from 6.7 million, to 34 million dollars in 1983. Some of the more significant achievements are a static frequency converter with a direct current intermediary circuit, patented in GDR; a process for producing silver-graphite electric contacts, patented in the United States, Iran, USSR, and Malaysia; an electric motor with integral brake, used for overhead cranes; some machine-tools and automated devices patented in Bulgaria, USSR, and Hungary; and so on.

The present five-year plan finds the electrical engineering industry firmly engaged in fulfilling the Program to Improve the Technical Level and Quality of Products, approved by the Plenary Session of the Central Committee of the RCP of November 1983, a program which imposes more than ever a sustained and constant activity to rapidly improve quality in all material production sectors. The quantitative accumulations, the basis of raw and other materials, and the technical potential accumulated in industry, make it possible for great steps to be taken toward a new quality. As a result of the strong measures that have been taken, 66.8 percent of the 1983 electrical and electronic products will be of world class, with the expectation that during the 1990's, about 96 percent of them will reach advanced performances internationally, with 2-5 percent exceeding that level.

The present stage is placing the foundations for development in such new fields as robots and comprehensive automation with robots, as well as in industrial microelectronics with the first microprocessors. Production diversification is seeking to develop radiocommunication and closed circuit television equipment for various utilizations (data transmission in industrial environments, mining exploitations, oil fields, hydrometeorologic services, radiocommunications, and radionavigation); systems for automatic process control with microcomputers; distributed control systems; electronic medical instruments and equipment (biothermoanalyzers, electronographs, anesthesia and breathing equipment); a line of equipment for execution, control, and regulation; color television; monaural and stereophonic tape recorders; numerical controls for machine-tools; telephone transmission with high speed optical fibers; intermediate and high power thyristors and diodes for the mining and oil industries, for robotics, and for control and monitoring equipment; nuclear power plants; unconventional electric motors and micromotors for automatic control; and servomotors and micromotors for automation mechanisms and industrial robots.

The next five-year plan will witness the fabrication of new types of mini- and microcomputers for process control, the incorporation of computers in telephone exchanges, ships, planes, and so on. Plans exist to develop a program industry to increase the exportation of computer equipment with application programs, as well as to expand the use of remote processing, and

to develop peripheral equipment for configuring computers. International trends impose an orientation toward the expansion and improvement of such fields as electronic equipment for medical therapy, chemical laboratories, research, and medical education. The development of automatic control of industrial processes will continue to receive priority, particularly for: microprocessors, memories, LSI circuits, MOS-LSI integrated circuits, optoelectronic components, and microwave components. The production of electrical and electronic equipment for motor vehicles and tractors will be modernized, diversified, and shifted toward electronics. In correlation with developments in various fields of the national economy, the electrical engineering industry will supply conventional, special, and specialized electric motors, unconventional motors and micromotors for automated control and regulation, as well as electric servomotors and motors for mechanisms in automation and industrial robots. To increasingly satisfy the population's consumption needs, plans exist for new varieties of electronic and electrical consumer goods, in parallel with diversifying existing ones. In this spirit, action will be taken to improve the performance and reliability of products, reduce manufacturing costs, develop research and technical engineering for color television, video recorders, cable television, dishwashers, and microwave ovens. Particular attention will be devoted to size reductions, larger number of functions, and lower power consumptions.

The implementation of the objectives of the electrical engineering and electronics industry during the present stage and for the future, will decisively contribute to the multilateral and sustained development of the national economy, and to a higher standard of material and cultural living for the entire nation.

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# NEED TO ADAPT EXPORT PRODUCTION TO MARKET DEMANDS

Bucharest REVISTA ECONOMICA in Romanian No 31, 3 Aug 84 pp 17-18

[Article by Maria Cartas]

[Text] In accordance with the Program to Raise the Technical and Quality Level of Products During the Present Decade, formulated under the direct guidance of the secretary general of the party, Nicolae Ceausescu, ministries, centrals, industrial enterprises, as well as institutes for scientific research and technical engineering, will establish during this year their own programs of tasks and responsibilities for raising technical and quality levels, modernizing all products being manufactured, and for improving technical production processes and quality control, so that even during this year they will provide for exportation only products that are competitive and of world class. In defining this comprehensive concept of "world class product," a substantial contribution is made by market situation studies and marketing analyses, which provide a reference system for the exportation programs of our producers.

The substantial change in energy costs in particular, as well as the expanding geographical area of distribution for industrial capabilities, have caught many established or recently industrialized countries with a structure that was not adapted or suited to the new conditions. The significant problem facing each of these countries today, is that of essential and effective readaptation in the shortest possible time. In this article, we present the conclusions of a study performed by the Institute for the World Economy, in Bucharest, regarding the needs and possibilities for restructuring as a function of the international market, the line of machines and tools being offered for exportation.

## Restructuring of the World's Production

The major orientations and trends that have arisen in this respect in the developed capitalist nations are:

Orientation of investment efforts toward technologies which reduce specific consumptions of energy, and toward the development of alternative sources of energy (reflected in a lower absolute imported oil value in OECD countries during 1980 and 1981);



Acceptance of a gradual reduction to extremely low values, in the utilization of facilities in the so-called "ailing industries" that consume large amounts of energy and other raw materials, with efficiency considerations acquiring priority over social ones. Such is the situation of the steel, petrochemical, textile, ship, and other industries, particularly in West European countries. This widens the gap between the effective structure of production and the structure of production capabilities;

Replacement, in developing nations, of industrial capabilities for products with relatively low technical and processing levels, that are intensive users of energy and raw materials, particularly through the channel of transnational companies. This orientation reflects the fact that in parallel with expanding trade protection measures, the industrially developed nations exhibit a tendency to gradually abandon this type of industries, which are being developed in "third world countries," while simultaneously attempting to control and exploit them through the operations of transnational companies;

An increasingly strong orientation toward advanced technology products, and especially toward research and development capabilities, industrial services (consulting, engineering, technical assistance, and so on), whose proportion in exportation is constantly growing.

All of the above are aimed at drastically reducing the dependence on raw materials and energy, and at adapting to changes in the structure of international demand. It is forecast for instance, that during the 1982-2000 period, developing nations will place in operation an annual average of 72 new chemical fertilizer plants (Structural Changes in Industry, UN, New York, 1981). This means that these countries will exhibit a steadily lower capacity for absorbing foreign fertilizers from the export market, while opening a constant demand for industrial technologies, tools, and services for their own facilities.

It is true that a standard adaptation strategy cannot be established on the basis of these economic development characteristics, since such a strategy must be based on the fundamental question of national resources; it must be formulated as a function of the resource situation (raw materials, manpower, technical capabilities, and so on) of each particular country. A few of the adopted orientations and expressed views of some European socialist countries, specific to the conditions in each of these countries, are:

Development of branches with "low importation intensity," which can be based primarily on domestic resources of raw materials, energy, semifinished products from subcontracting industries, and so on; together with the development of bilateral and multilateral cooperation capable of assuring that this effort at reducing importations will not lead to "absolute sovereignty" or "closed" economies;

Special emphasis on the development of advanced technology branches (microelectronics and industrial robot production in DGR, the pharmaceutical industry in Hungary, and so on), while maintaining an orientation toward

fields that are compatible with domestic research capabilities and with the possibility of building associated subindustries. Developments in microelectronics and information processing must not necessarily lead to an equal increase in direct exportation from these branches; the respective products must first of all be disseminated in the production (including export production) of the other branches;

Orientation toward an industrial production which will develop and increase the efficiency of agriculture (agricultural machinery, fertilizers, irrigation equipment, and so on).

The powerful development of Romania's machine building industry, following the party's consistent policy in this direction during the past decades, has resulted in a broad coverage from domestic production, of the internal for machines and tooling. Concurrently, this has allowed a continuous and extremely dynamic increase in Romania's exportation in this field.

The continued development of Romania's exportation of products manufactured by the machine building industry, is in general not limited by the absorption capacity of the international market, insofar as Romania provides only a small proportion (less than 0.6 percent) of the world exportation in this field, and since international market forecasts indicate a growth in the foreign demand for machines and tooling.

#### Orientation Criteria for Romanian Exportation

In fulfilling the tasks for a future growth in the value of Romania's exportation of products manufactured by the machine building industry, a decisive role will be played by a more efficient Romanian exportation, which will derive the highest possible value on the international market from the national effort incorporated in the export production. This is a major objective in the party's policy for Romania's intensive participation in the world trade circuit. To increase the efficiency of Romania's exportation of machines and tooling, some concerted measures appear necessary, aimed at improving the structure of the goods offered for exportation, concurrent with an improvement in technical and quality levels, and in the manner in which products are marketed.

Starting from an overall picture of the world market in that specialty, several major avenues exist to improve the structure of our machine and tooling exportation:

A strong positive influence would be exerted by increasing the proportion of high technology equipment in the total value of Romania's exportation of products manufactured by the machine building, electrical, and electronics industry. The products in this group bring the highest average export prices for the branch on international markets. The forecasts for higher absorption capacities on the part of foreign markets are favorable for continued development of high technology equipment exportation. Under these conditions we believe it is possible to emphasize the effort at increasing the Romanian

exportation of equipment for industrial electronics, computer and information processing, telecommunications, medical technology, fine machinery and optics, planes and plane engines--all of them products with high specific values that incorporate a large amount of scientific research and technical development work.

We should add that Romania has significantly developed its production base as well as its technical design and development capabilities for this category of products, but a comparative analysis shows that these products still constitute a small proportion of our exportation compared to the levels reached by a number of countries that are traditional exporters of products manufactured by their machine building industry.

The structure of Romania's machine exports could also be improved by a more rapid development in the Romanian exportation of consumer goods, primarily of consumer electronic equipment, which brings high exportation prices per unit. Consumer goods represent an extremely dynamic sector in the international trade of machine building industry products. Throughout the world, deliveries of durable consumer goods (including automobiles) represent about one-third of the total value of products of the machine building industry, and the demand for this category of goods is constantly growing and diversifying. By comparison, Romania's exportation of consumer goods is still very small. The promotion of this exportation depends on bringing the structure of Romania's offerings closer to the foreign demand, through the exportation of such products as color television sets, hi-fi stereo equipment, washing machines, two-door refrigerator-freezers, and so on, concurrent with constant design improvements in the products currently on export lists, as well as urgent solutions to quality and finishing problems;

In the area of production machines and tooling for exportation, we believe it necessary to implement a policy of differential growth by product types, as a function of the foreseeable evolution of foreign demand, as well as of the price levels obtainable for exportation. We thus estimate that it is opportune and possible for some categories of products to be exported at higher rates than the average rate for the subgroup as a whole. Among these are electric power and electronic equipment (electric motors and generators, low voltage instruments, electrical distribution equipment, and so on), tractors and agricultural machines, and machine-tools, products for which Romania's machine building industry has relatively advanced production capabilities and manufacturing experience, but which are still insufficiently exploited for exportation. More efficient promotion of this exportation requires an improved structure in the models and sizes offered by Romania, concurrent with continued improvement in technical construction specifications and quality, to meet the demands of the international market.

In the case of other products, the development of Romania's exportation must consider the changes that have occurred in the structure of foreign demand. For instance, Romania's offerings in oil drilling equipment--given that most of the readily accessible deposits are already prospected and exploited, and that current prospecting is necessarily oriented toward deposits that are



located at great depths or in zones with difficult access--should be orientated toward great depth, very powerful drilling installations, highly mobile installations that can be transported and used in zones with difficult access, devices for automatic monitoring of equipment operation, concurrent with a broader offer of spare parts and of diversified tools needed for the oil and gas industry;

In the transportation equipment field, the efficiency of Romanian exportation can be increased by constantly matching the offer to foreign demand. The continued development of Romania's exportation of railway rolling stock must take into consideration that the present international market trend is to substantially restrict the demand from developed capitalist and socialist countries, where the emphasis is on modernization of the inventory, whereas the market of developing countries is determined primarily by financial resources rather than real needs, even though it has an absorption potential. The value of exported Romanian railway rolling stock could be increased by increasing the proportion of locomotive exportation, by improving the structure of railway car exportation through a larger ratio of passenger and special purpose cars, and especially by offering complete railway systems which include--along with cars and locomotives--railway infrastructure elements and a complete range of specialized engineering services, such as consulting, design, assembly and installation, technical assistance, and personnel training.

The development of Romania's exportation of cargo ships, must also take into account the extremely difficult situation of the international market, whose capacity exceeds the demand for transportation. At the same time, to increase Romania's exportation in this field, we believe it necessary to make an effort at gradually changing the structure of the ships offered by Romania in accordance with changes in the structure of the international market, orienting it toward more complex ships such as multifunctional cargo ships, port-container ships, Ro/Ro ships, specialized ships for liquefied gas and processed petroleum products, and so on, for which an active foreign demand is expected.

Romania's present exportation structure for motor vehicle transportation is sufficiently diversified, with a more efficient development of exportation in this field being determined by the resolution of current technical quality and service problems.

#### Technical and Commercial Characteristics of the Offer

Together with improvements in the structure of Romania's exportation offer, a second direction for action to improve the efficiency of machine and tooling exportation is to increase the technical and quality level of the products, a most stringent demand at the present stage, when the world market is characterized by an unprecedented competition hardening. Production enterprises must increase their attention to finishing so as to lend products appropriate commercial appeal, to improved thermal treatments so as avoid premature wear, to assembly precision, to more efficient corrosion prevention,

and so on, processes whose inadequate performance have a negative influence on exportation prices, sometimes even affecting the position already gained on the market. The achievement of a high level of technical quality in accordance with the provisions of the special program adopted for the purpose, represents an essential condition for maintaining the positions gained on foreign markets, as well as for continuing to increase the volume and efficiency of exportation.

Considering the rapid rate of technical progress throughout the world, which tends to constantly shorten the lifetime of products in all machine construction branches, and particularly in advanced technology areas, we believe that the more efficient promotion of Romania's exportation of machines and tooling also demands a more rapid rate of redesign and of introduction of new products, at a level that is competitive with the products offered by others. In this respect, research and development activities as well as the speed with which research results are introduced in mass production, acquire special importance.

A third and no less important factor in increasing the volume and efficiency of Romania's exportation of machines and tooling, is the commercial competitiveness of the products, achieved by:

Expanding the offer of consulting, engineering, and other services, which create a specific demand of machines and tooling from users;

Directing toward exportation comprehensive "packages" of products and services, independently of the number or jurisdiction of the suppliers;

Continuing to build assembly lines abroad for various categories of machines manufactured in Romania, supplying all the equipment for building those lines, as well as the parts and subassemblies that will be installed;

Accelerating the process of international standardization for some of the various categories of machines and tooling produced in Romania;

Improving the quality of service for exported Romanian machines, of the manner in which advertising is carried out, and so on.

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## GOAL OF EQUAL DEVELOPMENT OF ALL COUNTIES DISCUSSED

Bucharest REVISTA ECONOMICA in Romanian No 33, 17 Aug 84 pp 1-2, 5

[Article by Stefan Baciu: "A Profoundly Humanistic View on the Territorial Development of the Production Forces"]

[Text] In the Romanian Communist Party's general strategy for economic and social development of Romania, the rational distribution of the production forces, the harmonious development of all counties and zones of the country, constitutes one of the basic objectives. From this perspective, in the years of socialist construction, our party has defined, stage by stage, the content of the program for socialist industrialization of Romania, the priorities regarding both the faster development of some branches and subbranches and the territorial placement of new investments, with a view to utilizing better the material and human resources in each zone of the country.

## A Unitary, Creative Strategy

The great accomplishments of the working class, of the whole populace, in the last 40 years and especially in the years after the ninth congress constitute an admirable and convincing demonstration of the correctness of our party's profoundly scientific policy of rationally distributing the production forces over the homeland's territory, of harmoniously developing all zones and localities, a policy in preparing which Comrade Nicolae Ceausescu, the brilliant leader of our country and party, has had and has a decisive role. In the view of the secretary general of the party, the rational distribution of the production forces is the only alternative for achieving full equality in rights for all working people, regardless of nationality, and for generally raising the standard of living.

In the rational distribution of the production forces over the territory, as in other fields of economic and social activity, our party also started from the objective necessities of socialist construction, judged in close connection with the realities of our country. It is well known that under the conditions of the bourgeois-landlord regime Romania was characterized not only by a low level of development of industry and agriculture but also by unequal development of the production forces over the territory. Industry was concentrated in five geographical zones, which had over 63 percent of the country's industrial output, 61 percent of the industrial motive power and over 55 percent of the

work force employed in industry, while three big provinces of the country, which held 40 percent of the population, had only about 12 percent of the industrial output. Consequently, in the years of the construction of the new society, the transition to the rational distribution of the production forces over the territory, to the harmonious economic and social development of all counties, was necessarily required.

Within the framework of the implementation of the policy of socialist industrialization of the country, in the period of the first 5-year plans, some positive results were obtained in the process of economic advancement of the less developed zones, through the placement of industrial facilities, the construction of new lines of communication and the doing of infrastructural work. Nevertheless, in 1965, there still were big gaps between the levels of economic development of the counties, accompanied by differences on a social plane, with many of the inhabitants of the less developed counties continuing to migrate to the industrialized centers and cities. In 1965, the industrial output per capita in many counties was far below the national average (see Table 1).

Table 1. The Industrial Output per Capita in Some Counties

| <u>County</u>    | <u>Industrial Output (lei per capita)</u> |
|------------------|---|
| National average | 10,502                                    |
| Bistrita-Nasaud  | 2,749                                     |
| Botosani         | 2,496                                     |
| Covasna          | 6,466                                     |
| Harghita         | 7,536                                     |
| Ialomita         | 3,555                                     |
| Mehedinti        | 3,968                                     |
| Satu Mare        | 5,318                                     |
| Teleorman        | 3,085                                     |
| Tulcea           | 4,829                                     |
| Vaslui           | 2,504                                     |
| Vrancea          | 4,244                                     |

The historic decisions of the ninth party congress, based on the scientific, revolutionary view of Comrade Nicolae Ceausescu, also provided for the application of a unitary strategy regarding the harmonious economic, social and cultural development of all counties. The party's secretary general, Comrade Nicolae Ceausescu, stated that the development of industry and strong economic growth throughout the country lead to the flourishing of our cities, to the advancement of the villages, to the affirmation of strong economic and cultural centers, have as a result the growth of the ranks of the working class and the raising of its level of training, the strengthening of its leading role in our socialist society, the advancement of the peasantry, which have a strong influence on all social life.

Since then, all the important occasions in the life of our party--the 10th, 11th and 12th congresses and the national conferences--have substantiated and devised profoundly original ways and solutions for implementing the policy of rational distribution of the production forces. The national party conference

in December 1967, which adopted a set of measures for perfecting the management and planning of the national economy and improving the territorial-administrative organization of the country—measures in initiating and preparing which Comrade Nicolae Ceausescu had a decisive, determining role—had a crucial importance in substantiating this policy.

#### All Counties of the Country, on the Highway to Progress

The strengthening of the role of the basic territorial units—the city and the commune—the elimination of intermediate links and the providing of a more favorable framework for rationally distributing the production forces were secured through the accomplishment of the territorial-administrative reorganization of the country in 1968. The political, economic and social significance of this major act was to be concretized in the entry of the lagging counties into an extensive process of development with unprecedented vitality. Among these counties were Bistrita-Nasaud, Botosani, Covasna, Ialomita, Harghita, Mehedinti, Satu Mare, Salaj, Tulcea, Vaslui, Vrancea and so on.

At the National RCP Conference in 1972, the directives regarding the systematization of the territory were adopted, putting at the foundation of this complex process a system of original principles, means and forms in keeping with the coordinates of modern civilization. In complete accord with the new administrative structure and in the spirit of the decisions adopted by the Ninth RCP Congress with regard to continually developing and expanding the democratization of our socialist order, there were also set up the new local bodies of state power, the people's councils, on which were conferred greater prerogatives and responsibilities in carrying out the process of economic and social development of the counties and each locality.

The improvements made in the planned management of the economy enter as an important facet into the set of steps taken by the party to continually improve the organization and management of all social life. Starting from the basic conception according to which planned management is the activity that must give expression to the requirements and exigencies for guiding the development of society with a view to attaining the goals and objectives of the party's policy, the law on the planned economic and social development of Romania, drafted under the direct guidance of Comrade Nicolae Ceausescu, concretizes our party's conception with regard to managing, on the basis of the sole plan, all areas of economic and social life.

The role and responsibilities of the people's councils in the substantiation, preparation and implementation of the programs for harmoniously developing the production forces throughout the country, of all the objectives concerning the progress of each locality of the homeland at a steady rate, and the involvement of the broad masses of citizens in discovering and harnessing new reserves that would permit the exemplary fulfillment of the plan provisions and of the pledges made, grew even more along with the institutionalization of planning on a territorial basis.

Through the implementation of the party's policy of rationally distributing the production forces throughout the country, in the 40 years and especially in the

last 19 years, revolutionary transformations, structural changes have occurred in the economic geography of our country. "It can be said," Comrade Nicolae Ceausescu stated, "that the constant concern for securing the development of all zones of the country, of the whole territory of the homeland, and the rational placement of the production forces has had an essential role in the accomplishment of the historic transformations in Romania that have led to the total and permanent elimination of capitalist and landlord exploitation, of inequalities of every kind, including national inequality, to the flourishing of the homeland and to the well-being of the people.... New industrial centers have appeared everywhere, including in the regions inhabited by a population of Hungarian, German, Serbian and other nationalities."

In 1965, only the capital and three counties attained an industrial output of at least 10 billion lei, but in 1980--on the basis of the implementation of the decisions of the 11th party congress--all counties had capacities for an output of at least 10 billion lei.

This stage reached in harmoniously developing the whole territory of the country created the premise for continuing this process on the basis of new qualitative orientations--the entry into a higher stage of multilateral development and of prosperity of the counties and localities of the country. The stage through which we are now passing and which, since the 12th party congress, has had a rigorous numerical expression--the attainment of a total volume of economic activity per capita of at least 70,000 lei and a degree of employment of the work force of at least 400 persons per 1,000 inhabitants--is providing continuity and consistency to the process of equalizing the levels of economic development of the counties, which corresponds fully to our party's social and national policy of providing for all citizens of the country equal conditions for progress and civilization. In all these years, the economic geography of the homeland has acquired a totally different appearance from that in the past, throughout the country, there operating in all counties highly important industrial and economic units with reference outputs (also see the accompanying maps [not reproduced]) that have raised Romania's industrial and economic prestige to some of the highest levels.

The rapid economic and social development of all counties and particularly the more lagging ones in the last four decades and especially after the ninth congress can be illustrated by the average annual rate of growth of industrial output, which has been higher than the national average in a number of counties in the 1966-1984 period (Table 2).

#### The Social Dimension of Development

As was also natural, the development of the Romanian economy at a steady rate caused striking structural changes in the urbanization process. On the whole, the urban population of the country and the number of urban settlements have registered significant increases (Table 3).

The urbanization process, as a qualitative dimension of economic and social development, has changed structurally the living and employment conditions of the population, has led directly to the growth of the population's incomes, to the



raising of the standard of living and civilization. The essential changes in the structure of the employed population have made possible a better utilization of the labor resources, a more balanced distribution of them according to branches and on a territorial basis. If the growth of the degree of training is also added to these things, we are witnessing in fact a continual rise in the efficiency in using the work force.

Table 2. The Average Annual Rate of Growth of Industrial Output in Some Counties in the 1966-1984 Period

| <u>County</u>   | <u>Percentage</u> |
|-----------------|-------------------|
| Bistrita-Nasaud | 15.1              |
| Botosani        | 11.5              |
| Covasna         | 12.5              |
| Harghita        | 10.3              |
| Ialomita        | 12.7              |
| Mehedinti       | 12.4              |
| Satu Mare       | 11.5              |
| Salaş           | 18.3              |
| Teleorman       | 12.7              |
| Tulcea          | 13.6              |
| Vaslui          | 14.0              |
| Vrancea         | 11.7              |

Table 3. Components of the Intensification of the Urbanization Process

| <u>Components</u>  | <u>1965</u> | <u>1984</u> |
|--|-------------|-------------|
| Number of cities   | 183         | 237         |
| Urban population (millions of inhabitants)                     | 6.4         | 11.1        |
| Percentage of the urban population in the total population (%) | 33.7        | 49.2        |

The evolution of the worker personnel illustrates graphically what the implementation of the policy of harmoniously developing all zones of the country has meant for the population in the counties that were poorly developed in 1965 (Table 4).

Along with the qualitative changes in the structure of employment of the population--changes indicated strikingly by the data in Table 4--the income per employed person has increased continually, which has led to the growth of the total and per-capita volume of sales of goods through socialist trade and of services for the population; the housing conditions have been improved through the implementation of a vast program of housing construction; the material base of education, culture and health care, for leisure and treatment, physical education and sports has been developed in all counties and localities of the country; and so on.

The expansion of urbanization, the rapid growth of the number of cities, has meant the improvement of the urban technical facilities of the localities, the development of the water-supply and sewer systems, the networks of streets and



boulevards, the mass-transportation systems, the automatic urban and interurban telephone systems, and the networks of recreational areas and environmental protection works.

Table 4. The Evolution of the Number of Worker Personnel in Some Counties

| <u>County</u>   | <u>1965</u> | <u>1984</u> |
|-----------------|-------------|-------------|
| Bistrita-Nasaud | 32.0        | 82.5        |
| Botosani        | 41.1        | 97.0        |
| Covasna         | 32.6        | 74.2        |
| Harghita        | 59.7        | 110.3       |
| Ialomita        | 50.2        | 85.1        |
| Mehedinti       | 47.4        | 97.6        |
| Satu Mare       | 59.1        | 117.9       |
| Salaş           | 26.3        | 68.7        |
| Teleorman       | 58.9        | 115.4       |
| Tulcea          | 47.1        | 94.9        |
| Vaslui          | 48.7        | 105.5       |
| Vrancea         | 51.6        | 90.8        |

The great accomplishments obtained in the economic and social development of all counties of the country have been possible due to the implementation of a huge program of investments, from which all counties and especially the more lagging ones have benefited.

Within the investment program, the placement of new industrial facilities has been done on the basis of the instructions of great theoretical and practical significance, formulated by Comrade Nicolae Ceausescu, with regard to suitably combining the elements of economic effectiveness, of efficiency, with those of a social nature. Thus, elements of choice such as the closeness of industry with voluminous production to the sources of raw materials and the areas of consumption, the intense and economical use of the lines of transportation, the utilization of the scientific potential of the university centers for the peak industries, and so on have been sensibly correlated with the necessity of raising the level of industrialization of the less developed counties and creating new workplaces, with the change in the structure of the employed population, with the growth in the degree of urbanization of the counties and with the securing of the growth of the size of the working class in all zones of the country.

On the basis of the advanced, original view of our party's secretary general, Comrade Nicolae Ceausescu, regarding the placement of the economic facilities within the localities, new, integrated industrial platforms have been organized and the existing ones have been developed and systematized in a unitary, scientific conception.

The results obtained in recent decades in the economic and social development of all counties and localities define the correctness of a policy whose goal is to raise to a high stage of civilization and progress all citizens of Romania, regardless of nationality, on the bright course of forging the multilaterally developed socialist society and advancing the country toward communism.

## ECONOMIC IMPORTANCE OF COMPUTER SYSTEMS

Bucharest REVISTA ECONOMICA in Romanian No 33, 17 Aug 84 pp 17-19

[Article by Mihai Dragangescu and Belu Prodan: "Data Processing—a Peak Branch of the Romanian Economy"]

[Text] Data processing has become one of the most important fields of modern technology. Microelectronics and data processing are now causing a new industrial revolution that is leading to the transformation of present-day industry into a new, highly productive and efficient industry with high quality in the products and to the industrialization of other fields of activity of man. Being in essence the technology of information, data processing in the field that uses electronic technical support, as well as any other physical support, to obtain a dynamics of information in which concentrations of information (data bases and banks, knowledge bases and so on) and data-processing programs have a basic role. Data processing has become a global problem of mankind, with its utilization in all fields of activity entailing efficiency, higher quality and new qualities, and growth in labor productivity.

It is a great merit of our party of having grasped from the start of the "Ceausescu Era" the role and importance of data processing in the strategy for the development of socialist Romania. Analyzing the theoretical problems of the modern scientific and technical revolution in connection with the industrial, economic and social problems, the party's secretary general, Comrade Nicolae Ceausescu, stated as far back as in 1965, at the Ninth RCP Congress: "The base of the electronics industry, very important for developing the economy in the future, will have to be enlarged, there depending on it the expansion of the automation of the production processes in step with the requirements of the scientific and technical revolution...."

Romania's entry onto the path of progress and development also meant the birth of Romanian data processing. The introduction and development of data processing in Romania began, on the initiative of Comrade Nicolae Ceausescu, with a program approved in 1967 by the Political Executive Committee of the RCP Central Committee, titled "The Program for Supplying the National Economy with Modern Equipment for Computation and the Automation of Data Processing," conceived as a complex program, which had a great importance for technological progress in our country, since its application launched the microelectronic revolution and the data-processing revolution, components of the scientific and

technological revolution in Romania. The activities performed in the period that followed permitted the formation of basic structures for the development of data processing with regard to the devising, production and maintenance of data-processing equipment, the utilization of it and the training of specialized personnel.

Thus, the organization of the manufacture of some types of computer equipment was undertaken, such as electronic office machines, invoicing and accounting machines, and medium-capacity third-generation computers of the Felix C-256 [expansion unknown] model, and there began to operate the first computer centers in the central synthesis bodies--the State Planning Committee, the Central Directorate for Statistics, the Ministry of Finance and the Ministry of Technical-Material Supply and Control of the Management of Fixed Assets--territorial computer centers (in Timisoara, Cluj, Iasi, Ploiesti, Pitesti, Brasov, Constanta and so on), centers in industrial centrals and enterprises (the Galati CS [Iron and Steel Combine], the Craiova CIMAE [expansion unknown], the Resita ICM [Machine-Building Enterprise], the Resita CS, the Brasov CIAT [Central for the Motor Vehicle and Transportation Industry] and so on), production units (the Computer Enterprise, the Peripheral Equipment Enterprise), research and development units in the field of computer equipment and basic and applicative programs (the Institute for Computer Technology, the Central Institute for Data Processing), design units (the computer centers of the Bucharest "Proiect" Institute, the Institute for Power Studies and Designs, the Automation Design Institute and so on), units for maintenance and repair of computer equipment (the IIRUC [Enterprise for Maintenance and Repair of Computer Equipment]), units for training and specialization of personnel with secondary and higher education (the Center for Advanced Training of Management Personnel, CEPECA), the Center for Economic Computation and Economic Cybernetics in the Academy of Economic Studies, the Computer Center of the University of Bucharest, specialized sections in various departments in institutes of higher learning and data-processing secondary schools in Bucharest, Cluj, Iasi, Timisoara, Brasov and so on, and a foreign trade unit, "Electronum."

In accordance with the directives of the 10th RCP Congress, data processing was oriented in support of economic and social management on all levels of the economy and toward the expansion of the automation of the technological processes and toward the utilization of computers in technical, technological and construction design, there being secured on this basis the growth of the economic efficiency in all sectors of activity.

The plenum of the Central Committee of the Romanian Communist Party on 12 April 1972 approved a program for the 1971-1980 period with regard to improving the economic and social information system, introducing management systems with means of automatic data processing, and equipping the national economy with computer technology, through which there were established the basic orientations, the actions and the activities that had to be undertaken, which would lead to the providing of the premises for gradually proceeding to achieve the National Data-Processing System after 1980.

Analyzing in retrospect the achievements obtained thus far, it can be stated that remarkable results have been attained in developing new types of computer

equipment, supplying the national economy with computer technology, introducing systems for data processing and for management of technological processes by computer, developing the data-processing units, creating a valuable supply of specialized personnel, participating with data-processing products and specialized technical assistance in promoting the exportation of Romanian computer technology, and so on.

Regarding the computer equipment, the family of electronic invoicing and accounting machines with integrated circuits, the family of medium- and high-capacity third-generation computers (of the Felix C-32 and Felix C-512/1024 models), mini- and microcomputers of the Independent 100, Coral 4,000, MC 8 [expansion unknown], M 18 [expansion unknown] and M 118 models, systems for introducing and collecting data (of the SIV 2400 [expansion unknown] and TDF [expansion unknown] models), various terminals (of the DAF 1001 and 1002 [expansion unknown], DAF 2010 and 2030 and TELEROM [expansion unknown] models), systems for management of technological processes by microcomputer, and so on were devised and put into manufacture.

The production of this equipment led to diversification in equipping the national economy, there being secured the meeting of some of the conditions required for achieving data-processing systems and more and more efficiently utilizing computer equipment.

By the end of 1983, the national economy was supplied with over 11,600 invoicing and accounting machines, over 9,500 pieces of equipment for preparing data, over 2,200 data-processing terminals and over 1,100 computers and mini- and microcomputers, in the dynamics in Figure 1.

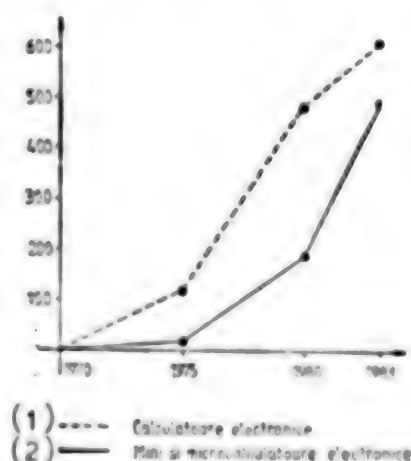


Figure 1. The Dynamics of the Equipping of the National Economy with Computers, Minicomputers and Microcomputers

Key: 1. Computers

2. Mini- and microcomputers

The distribution of computer equipment to the economic and social units was done in accordance with the instructions given by the party and state



leadership, with mainly the units in industry being taken into consideration (Figure 2).

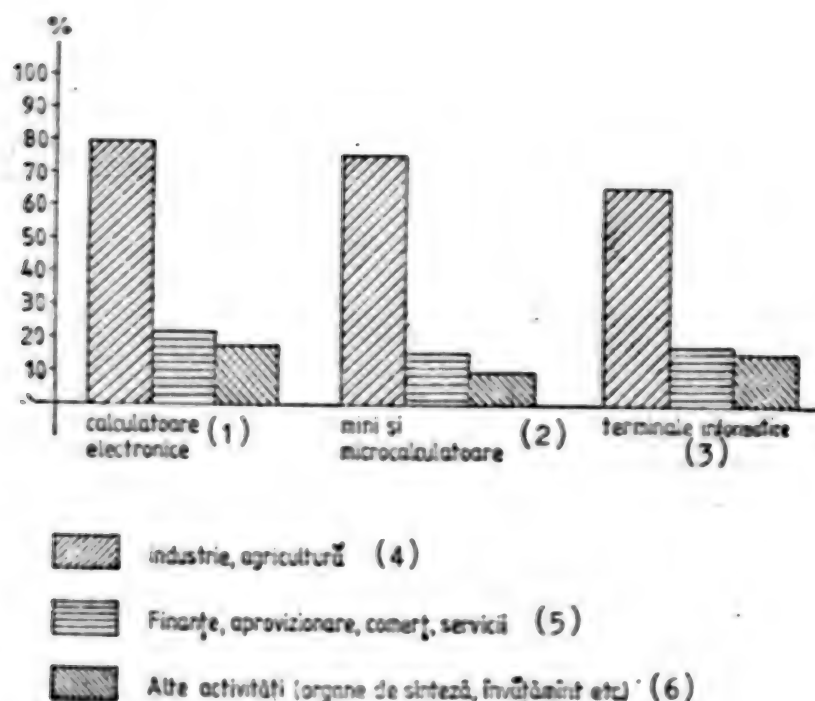


Figure 2. The Percentage Distribution of Computers, Mini- and Microcomputers and Data-Processing Terminals to the Units in the Economy

- |                              |   |
|------------------------------|---|
| Key: 1. Computers            | 5. Finances, supply, trade, services                        |
| 2. Mini- and microcomputers  | 6. Other activities (synthesis bodies, education and so on) |
| 3. Data-processing terminals |   |
| 4. Industry, agriculture     |   |

The design and implementation of data-processing systems were oriented with priority toward meeting the requirements for computerizing the activities of the units in the basic branches of the economy, for the general functions of the national economy and for branch data-processing systems, with their dynamics undergoing significant growth (Figure 3).

The resources for design and electronic data processing were allocated especially for managing the production and technical-material supply of the enterprises. The dynamics of the introduction of data-processing systems into the economy indicates the fact that nearly 4 times more units benefited from the advantages of utilizing computers in 1983 than in 1975. This increase was also achieved under the conditions of raising the degree of complexity of the data-processing systems implemented, from isolated applications to systems in a unitary conception that integrate the activity of the economic units.

Over 1,600 data-processing units, of which 120 are computer centers, are now operating in the economy.

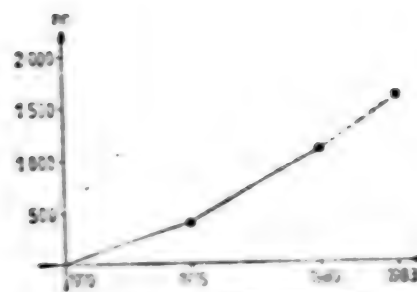


Figure 3. The Dynamics of the Introduction of Data-Processing Systems into the National Economy

The increase supply of computer equipment for the economy and the growth in the number of data-processing units were accompanied by constant concerns for raising the degree of utilization of technical means of computation and continually increasing labor productivity. On this basis, it has been possible to gradually lower the rates for automatic data-processing services, by nearly 5-fold from 1970 to the present, while maintaining the level of profitability of the data-processing units in the national economy (Figure 4).

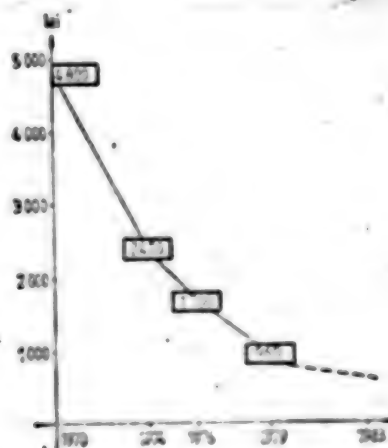


Figure 4. The Dynamics of the Reduction of the Rates for Automatic Data-Processing Services

The process of training, improvement and specialization of the personnel was carried out at a steady rate, with the proper number of personnel being provided, through the founding of the sections specializing in the field of computer technology at the polytechnic institutes, of the sections for data processing and economic cybernetics at universities and institutes of higher learning, and of the data-processing secondary schools for training personnel with secondary education. Of the total number of working people who perform their activity in the data-processing units, nearly 40 percent work in computer centers, and the specialized personnel with higher education--analysts, programmers and systems engineers--represent 30 percent of all personnel who work in data-processing

units. (The dynamics of the training of the specialized personnel through various forms is given in Figure 5.)

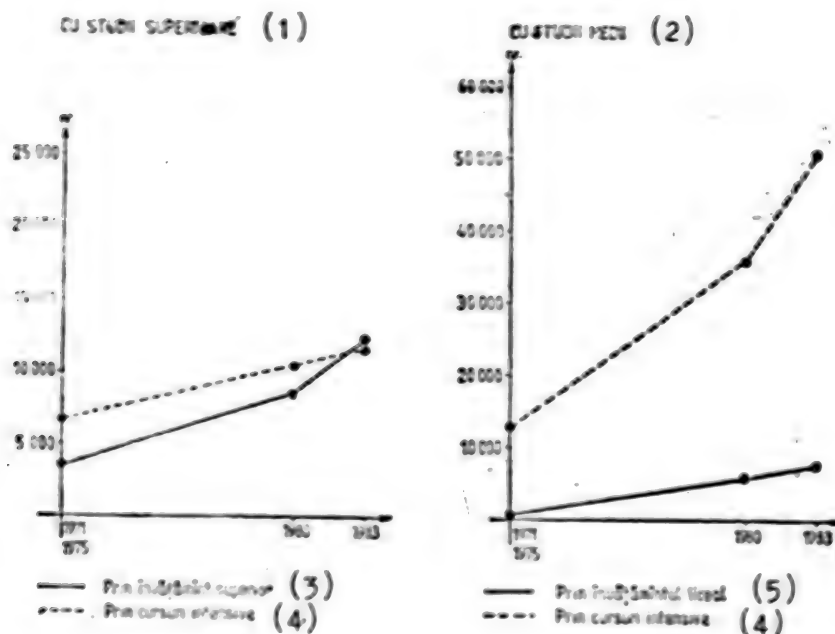


Figure 5. The Training of Personnel in the Field of Data Processing

- Key: 1. With higher studies  
2. With secondary studies  
3. Through higher education  
4. Through intensive courses  
5. Through secondary education

The integration of data processing into the economic and social units and the contribution of the utilization of computer technology are helping more and more to efficiently manage economic activity. From the analyses made at 1,000 important enterprises in the economy with over 10 years of experience in data processing, it has been found that they have managed to cover their expenses and to obtain considerable savings.

The efficiency coefficient, equal to the ratio between the incomes obtained through data processing and the expenses for data processing, is equal to approximately 1.75 lei in savings per leu invested. Such coefficients have been higher in the metallurgical industry (3.05), the machine-tool, electrical-engineering and electronics industry (2.83), machine building (2.00) and the chemical industry (1.96). In addition, other effects of economic efficiency have also been obtained, such as big reductions in material, fuel and energy consumptions, better utilization of the production capacities, the obtaining of production increases, the reduction of the volume of excess materials, quite big relative reductions in administrative personnel, and the reduction of the time for preparing for manufacture—from months to weeks or even to days—and of the time for rescheduling production, which is cut to 1 day through the achievement of data-processing systems with terminals in the production sections, as is the case at the Brasov Implement and Tool Enterprise, the Galati

Iron and Steel Combine, the Iasi "Metalurgica" Enterprise, Craiova "Electroputere," the Brasov Truck Enterprise, "Republica," "Electroaparataj" and the Bucharest Enterprise for Automation Elements. The results obtained in efficiency and productivity constitute proof of the viability of data processing in our country; they give confidence in attaining the objectives set by the party with regard to creating a data-processing infrastructure for the national economy.

The introduction of data processing into the organization and operation of the management and production processes now has an irreversible character, with modern means of computer technology constituting one of the decisive factors for obtaining high technical and economic performances in a relatively short and very short time, with data processing representing at the same time the main instrument for applying and generalizing the new economic and financial mechanism in all the units in the economy.

The data-processing programs (such as: TEHNO, Data Processing in the Field of Technical Preparation for Manufacture; MECANO, Control of the Operation, Maintenance and Repair of Machines and Installations; ADEST-S, Supply, Sales and Stock Control; PERSORET, Administration of Personnel and Pay; CONTAB, Bookkeeping in the Economic and Social Units; RENO-RENAC, the Nodal and National Computer Network—for computers—or MONTAJ, Operational Management of Sections with Manufacturing and Assembly Lines; CALYPSO, Control of Production Quality; CADIS, Management of Production with Mechanical-Processing Sections; TRACOS, Operational Management of Production; DISPECER, Management of Production Shops; ZODIAC, Management of the Control of Territorial Distribution in Electrical Networks; COMATI, Control of Railroad Sidings—for minicomputers) have become products recognized for their utility and efficiency.

From a technical viewpoint, the resolution of the problems of productivity and quality depends on the new technologies and on the utilization of data processing, microelectronics and automation. This is the way of the future. As Comrade Nicolae Ceausescu, the secretary general of the Romanian Communist Party, stated at the plenum of the RCP Central Committee on 21-22 March 1984: "Let us promote the new as boldly as possible in all sectors! There must be no reservation about taking steps to replace everything that is old and making way for the new! There must be no fear of promoting, in all fields, the new, revolutionary spirit, the revolutionary conceptions of work, of thought! Our party will be able to fulfill its historical mission only if it does not get bogged down in dogma, if it is not hidebound, if it has the courage to look at reality and to act in accordance with the requirements of the objective laws of economic and social development."

In conformity with the decisions of the 12th party congress, the recent special program, approved by the RCP Central Committee and the Grand National Assembly, referring to the measures regarding the growth of labor productivity in the 1983-1985 period and up to 1990 gives a special role to automation and robotization in industry. With modern automation being based on computer technology and data processing, industrial data processing will have a bigger role in the next stage. In recent years, under the guidance of Comrade Acad Dr Eng Elena Ceausescu, the chairman of the National Council for Science and



Technology, special attention was devoted to data processing for research and design, the interconnection of the territorial computer centers (the network called symbolically "Unirea") was begun, research was undertaken in the field of artificial intelligence, with the first intelligent data-processing programs being achieved, programs were devised for industrial robots, and research was begun in the field of speech technology, with there to be developed later an industry of data-processing programs that would promote economic development under the new conditions of rapid progress in technology on a world level.

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## CREDIT-MONETARY TRENDS IN FIRST HALF OF 1984

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 22 Aug 84 p 7

[Article by Radoslav Vuksanovic]

[Text] According to preliminary data, in July the money supply grew somewhat more than in the same month last year, which shows that even at the beginning of the second half of the year, the trend toward expanding income to associated labor organizations in the economy in order to strengthen their liquidity is continuing. This orientation is in accord with the needs for vitalization of economic activity, and especially more rapid growth of production and exports. In this the annual rate of growth in the money supply and bank investments remains below expectations for 1984, so that it can be said that monetary and credit trends are in harmony with the goals of stabilization.

According to reliable data, the growth in the money supply in the entire first half of the year amounted to 118.4 billion dinars, which resulted primarily from a more noticeable increase in bank investments as the basic source of credit. That is in accord with the policies established for this year, which call for measures of monetary and credit policy to set higher limits on bank investments. The annual rate of growth in the money supply (for July of 1984 compared to July of 1983) was 31.7 percent, which was below the anticipated rate for the year of 38.5 percent.

The distribution of the money supply by sectors shows that the trend for greater growth in the money supply in associated labor organizations and other users in the economy has continued at a higher rate than in non-economic activities. In the first half of this year, the growth in the economy amounted to 51 billion dinars, while in the same period last year there was a decrease of 2.5 billion. In that manner, the annual rate of money growth in the economy amounted to 34 percent, which exceeded the rate of growth in the overall money supply of 31.7 percent.

The relatively high rate of growth in the money supply has also been the case with other users in the public sector (including sociopolitical communities, self-management interest communities, labor and other organizations outside the economy). Meanwhile, the tendency to markedly slower growth in the money held by private citizens has also continued

(at 22 percent). The growth of cash in circulation in the first half of the year amounted to 5.1 billion dinars, which was both relatively and absolutely less than in the same period last year, when it amounted to 12.5 billion dinars.

The sources for forming the money supply show that, besides bank investments, a significant influence on its growth came from reduced transfer of money to nonmonetary deposits (in reserve funds, long-term deposits, and individual savings accounts). These categories were less than last year, which can be related to problems in cash flow carried over from 1983 and pressures for greater amounts of money in checking accounts of associated labor organizations which are used directly for operating capital.

Not counting the effects coming from changes in the dinar exchange rate, bank investments in the first 6 months grew by 324 billion dinars, or 10.2 percent, compared to December of last year. That rate of growth exceeded the planned amount of 299 billion dinars, but it did not exceed established monetary and credit limits and frameworks, for the growth in net domestic bank activities was less than expected. In the framework of overall capital placement, bank credits grew by 305.8 billion dinars.

In the duration of investments, there has been a trend to more rapid increase in short-term credits than in long-term loans, since short-term loans increased by 175.3 billion or 18.3 percent, while long-term loans grew by 130.5 billion dinars, or 6.2 percent.

The growth of bank investments in the first 6 months included 48 billion dinars of primary emission of which 38.3 billion came from selective credits and 9.7 billion from cashing in valuable papers. Within the framework of selective investments, credits for exports increased by 29 percent those for imports by 9 percent, for reserves of basic agricultural products and processed foods by 53 percent, and for coal reserves by 38 percent. Meanwhile, credits for production and reserves of certain agricultural and processed food products decreased by 10 percent and those for purchase and sales of domestic equipment and ships fell by 5 percent.

Credits for exports of goods and services, which in overall selective investments accounted for 60 percent of the total, have been increased in absolute terms by the greatest amount, 44.5 billion dinars, which is in accordance with established priorities for using primary emission. Trends in other selective credits were in harmony with the needs for financing established priorities. An exception was credits for market reserves of agricultural and processed food products.

## 6-MONTH DATA ON ENTERPRISE OPERATION, LOSSES

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 27 Aug 84 pp 12-13

[Text] The data on the performance of the economy for a 6-month period, which the SDK [Social Accounting Service] presented last week on the basis of periodic accounts, will probably be accompanied by the usual official assessments--concerning the more difficult business conditions, and deviations from the goals of stabilization, but also "significant initial results in that area." Such assessments likewise conceal an unaltered situation and an occasional fact supporting optimism (the growth of industrial production and exports, for example). But this is not accompanied by any improvements in the quality of business operation, nor are there any changes in the economic system and economic policy measures that would promise that what is positive would be turned into a trend.

## Recovery and Its Background

In the second quarter of this year, there was an accelerated growth of industrial production, with the 3.6 percent rate of the first quarter increased to 4.7 percent for the entire half year (the resolution provided for a growth of 3 percent). The agricultural and tourism balances still have to be drawn up, and construction capacities are still chronically unused, and the real volume of turnover in retail trade has decline by 3 percent. The total income of the economy was thus nominally increased by 60.1 percent, with a simultaneous 54.5 percent growth in producer prices, a 55.7 percent growth in retail prices, and a 53.4 percent increase in the cost of living.

In addition to the growth of industrial production, many people will be inclined to interpret in a positive light the data on foreign trade. Specifically, imports were 1 percent lower and exports 5 percent higher (12 percent higher to the convertible area). Thus, in addition to interest income, which almost doubled because of the increase in interest rates and mutual financing, income from foreign markets was the most dynamic item in the structure of total income. With a 77.6 percent growth in comparison with the first 6 months of last year, it increased its contribution to the total income from 5.7 to 6.1 percent. It is worth noting, however, that after the first quarter the growth rate was much higher (125 percent) and thus the contribution was somewhat greater (6.2 percent).



Unfortunately, all of these numbers also have a darker side, in which the problems existing for several years are continuing to intensify. Thus, the total funds expended grew at a rate of 6.1 percent, and thus more rapidly than total income. The largest item, expenses for raw and other materials, was increased by 64.3 percent, while the largest additional burden for the economy was the increase in outlays for energy by an entire 107.2 percent. Also noticeable was a rapid growth in previously restricted outlays—for travel abroad (153.9 percent, a large portion of which was changes in the exchange rate), business entertainment expenses (101.7 percent), and continuing to ensure the mandatory amortization, and thus its affect on income. With a nominal growth of only 36.8 percent, its share in total funds spent was reduced from 4.4 percent in the first half of last year and 4.1 percent in the first quarter of this year to only 3.8 percent.

The overall economy of doing business deteriorated, since expenses grew 0.9 index points faster than income, but some encouragement is given by the fact that this difference amounted to 1.8 percent in the first quarter.

The economy's income increased by 56 percent, with an 8 percent slower growth in the portion left to the economy (48 percent), and this thus continued the impoverishment of the economy that has been underway for several years. Its share in the income now amounts to only 56.1 percent (the share of personal incomes and joint expenditure is 35.6 percent, i.e., 3.8 percent less than in the first 6 months of last year, while accumulation and reserves were 20.5 percent or 0.9 percent higher). Also reduced was the share of allocations for general and joint needs, although with the still excessively high growth rates for these outlays and the increasingly smaller ability of the economy to support them, one should not boast too much about this fact. All of these decreases are amply compensated for by the 305 billion dinars that the economy paid for interest, i.e., 102.4 percent more than by the end of June last year. Thus, interest has already come from 14 percent to 18 percent of the distributed income. It is worth noting that of the above-mentioned 305 billion, 133 billion were paid in the first quarter and as much as 172 billion in the second. This means that even with the present interest rates, in the second half of the year the economy must expect a considerably greater burden, which will naturally continue to increase as a result of the further growth of interest.

In real terms, the economy's income was considerably reduced, although it was nominally increased by 46.8 percent. Funds for personal incomes and joint expenditure were increased by 41.8 percent, and accumulation and reserves by 60.6 percent. These two items, however, tell much more if they are separated. Specifically, personal incomes were increased by 42.7 percent, and joint expenditure by 32.4 percent, while on the other hand, the business funds and funds for promotion of the material basis of work grew by 54 percent, and reserves by as much as 109.5 percent. Naturally, such different growth rates also caused great changes in the structure of net income. The share of personal and joint expenditure was reduced by 2.5 percent (to 70.9 percent), and the share of accumulation and reserves was increased by the same amount. The 29.1 percent now taken up by accumulation (compared to 26.6 percent in the first half of last year and 28.6 percent

in the first quarter of this year) should also not be accepted with too much enthusiasm, when one sees that this change was made within the increasingly more confined limits of net income and when one knows what the situation is like with personal incomes, at the expense of which all of this was accomplished. And in regard to personal incomes, it is sufficient to examine the official statistical series of their real neutralization in the last five years: 1980--6.8 percent, in 1981--3.5 percent, 1982--3.8 percent, 1983--9.7 percent, and the first half of 1984--9.8 percent. In view of these data, the facts that the average wages in the first 6 months amounted to 19,868 dinars and that this was a 38.4 percent increase are almost insignificant.

#### Slowed Growth of Losses

Finally, certain reasons for encouragement are also coming from the side that the "darkest" tones are usually used to describe. This naturally refers to losses. Current losses are 33.9 percent higher than in the first half of last year, and amount to 97.8 billion dinars. The losses were incurred by a somewhat smaller number of OOURs (Basic Organizations of Associated Labor), but with 2.7 percent more workers. The relatively low growth rate also caused a decrease in the share of losses in income from 6.7 to 5.8 percent. The situation differs dramatically among individual industries, however. While in trade and banks, for example, the losses were even nominally reduced, in industry they were increased by 22.8 percent, in agriculture they were almost doubled (an index of 284, although it must be stated that this amounted to a negligible 2.9 billion), and in construction they were 87 percent higher.

The highest losses were incurred by the economy of Croatia (38.6 billion dinars); in comparison with last year current losses grew the most in Bosnia-Herzegovina (by 63.6 percent, while they were only lower in Slovenia, by 9.5 percent), but they burdened the economy most in Montenegro, where they constitute as much as 15.4 percent with respect to the income earned (the percentage for the country as a whole is 5.8 percent). To all of these data one must add the 7.4 billion dinars in losses from previous years that had not been covered at the end of June. Naturally, there are also all those statistically unnoticed losses originating from the inadequate calculation of income, in which income is artificially increased at the expense of substance in the economy, and limited negative exchange rate differences.

All of this indicates that while individual data taken out of context can constitute a reason for satisfaction, the unfavorable situation in the economy is continuing, since nothing has fundamentally changed even in the systemic environment that governs this situation. The economy has less and less money, relations in the distribution of income are continuing to deteriorate at the expense of the economy, there has been a decrease in the share of long-term sources in the structure of the sources of business funds (from 48.5 to 45.4 percent), with increases in credits and obligations to suppliers, increasing interest rates are forcing some "economizing" in general and joint expenditures, and the rates of the

Table 1.

## 1) Učelke privrede, izdataka za opšte i zajedničke potrebe kamata, u raspoređenom dohotku

| 2) Godina | 3) % ukala u raspoređenom dohotku |      |                                  |      |                  |      |
|-----------|-----------------------------------|------|----------------------------------|------|------------------|------|
|           | 4) Doz za OGRM potrebe            |      | 5) Doz za opšte i zajed. potrebe |      | 6) Doz za kamata |      |
|           | I-XII                             | I-VI | I-XII                            | I-VI | I-XII            | I-VI |
| 1960      | 44.2                              | 44.1 | 22.3                             | 22.7 | 8.2              | 7.9  |
| 1961      | 41.3                              | 41.0 | 22.9                             | 23.5 | 8.3              | 8.5  |
| 1962      | 41.2                              | 41.4 | 22.2                             | 23.2 | 10.6             | 9.9  |
| 1963      | 38.1                              | 39.0 | 21.1                             | 21.8 | 14.6             | 13.2 |
| 1964      | —                                 | 36.1 | —                                | 26.5 | —                | 17.1 |

## 7) Proporcije raspodele čistog dohotka

| 2) Godina | 8) u procentima                  |                |                              |            |
|-----------|----------------------------------|----------------|------------------------------|------------|
|           | 9) januar-december               |                | 10) januar-juni              |            |
|           | 11) sa I.A. i zajedničke potrebe | 12) sa fondova | sa I.A. i zajedničke potrebe | sa fondova |
| 1960      | 60.0                             | 30.0           | 77.6                         | 22.4       |
| 1961      | 76.9                             | 23.1           | 73.6                         | 26.2       |
| 1962      | 77.3                             | 22.5           | 73.9                         | 24.1       |
| 1963      | 73.8                             | 24.2           | 71.4                         | 28.6       |
| 1964      | —                                | —              | 70.9                         | 29.1       |

## 13) Tekući gubici

| 2) Godina | I-XII               |                              |                                   |                                   | I-VI                |                              |                                   |                                   |
|-----------|---------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------|------------------------------|-----------------------------------|-----------------------------------|
|           | 14) broj OGRM u gđ. | 15) broj redovnih OGRM u gđ. | 16) broj izostavljenih OGRM u gđ. | 17) broj izostavljenih OGRM u gđ. | 18) broj OGRM u gđ. | 19) broj redovnih OGRM u gđ. | 20) broj izostavljenih OGRM u gđ. | 21) broj izostavljenih OGRM u gđ. |
| 1960      | 1.362               | 302.568                      | 19.370                            | 1.8                               | 2.464               | 430.544                      | 16.705                            | 3.8                               |
| 1961      | 1.596               | 386.576                      | 30.388                            | 2.0                               | 2.620               | 365.120                      | 30.679                            | 4.8                               |
| 1962      | 2.172               | 483.308                      | 66.039                            | 3.5                               | 3.039               | 601.479                      | 44.817                            | 5.3                               |
| 1963      | 2.620               | 533.200                      | 117.636                           | 4.5                               | 3.230               | 633.619                      | 74.668                            | 6.9                               |
| 1964      | —                   | —                            | —                                 | —                                 | 3.216               | 629.646                      | 97.278                            | 5.3                               |

Ekonomika politika, 1960, 27. septembar 1964.

## Osnovni finansijski rezultati poslovanja

18) — sa ukupnu privredu —  
— iznosi u milijunima dinara —

|   | 19) iznosi |            |         |
|---|------------|------------|---------|
|   | I-VI 1963. | I-VI 1964. | Indeksi |
| 20) 1. Broj OGRM                                  | 29.634     | 29.137     | 99.0    |
| 21) 2. Broj zaposlenih                            | 4.742.208  | 4.872.097  | 102.7   |
| 22) 3. Ukupni prihodi                             | 5.697.962  | 9.123.621  | 160.1   |
| 23) 4. Upravljeni sredstva                        | 4.537.779  | 7.308.963  | 161.0   |
| 24) 5. Dobitak                                    | 1.091.186  | 1.701.648  | 156.0   |
| 25) 6. Ostvareni čist dobitak                     | 780.074    | 1.146.491  | 146.8   |
| 26) 7. Raspoređeni dobitak                        | 1.140.829  | 1.783.430  | 156.3   |
| 27) 8. Raspoređeni čist dobitak                   | 814.721    | 1.196.228  | 146.8   |
| 28) 9. Tekući gubici                              | 31.061     | 97.778     | 313.0   |
| 29) 10. Sadržana razlika u poslovanju (1-13. VII) | 206.027    | 477.511    | 231.8   |
| 30) 11. Namplacena razlika                        | 230.117    | 387.449    | 168.3   |

Ekonomika politika, 1964, 1. oktobar 1964.

Key:

1. Share of the economy, outlays for general and joint needs, and interest in the income distributed
2. Year
3. Percent share in the income distributed
4. Part for the OOURs of the economy
5. Part for general-social and joint needs
6. Part for interest
7. Proportions of the distribution of net income
8. In percent
9. January-December
10. January-June
11. For personal incomes and joint expenditure
12. For the funds
13. Current losses
14. Number of OOURs with current losses
15. Number of workers in OOURs with current losses
16. Amount of current losses in billions of dinars
17. Current losses as percentage of income earned
18. Basic financial results of business operation for the entire economy (amounts in million of dinars)
19. Amounts
20. Number of OOURs
21. Number employed
22. Total receipts
23. Funds spent
24. Income
25. Net income earned
26. Distributed income
27. Distributed net income
28. Current losses
29. Realization for which payment was collected in the period
30. Realization for which payment was not collected

neutralization of real wages are growing at a dizzying pace, although it has been officially assessed on several occasions (and with higher real wages) that the extreme limit of endurance has been reached. Consequently, one should receive with many reservations all future praise for the growth and joint expenditures, the consciousness of the workers who even under these conditions are increasing allocations for accumulation, and the slower growth of losses (this order will probably be used the most in stressing the economy achievements of the 6-month period).

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CS0: 2800/476



## ECONOMY'S OUTLAYS FOR CAPITAL ACCUMULATION INCREASE

Belgrade PRIVREDNI PREGLED In Serbo-Croatian 30 Aug 84 p 2

[Text] In the first 6 months of this year, the Yugoslav economy set aside 348.4 billion dinars for capital accumulation and reserves. This sum is 60.6 percent higher than the sum accumulated in the same period last year. As the Yugoslav Public Accounting Office stresses, this contribution accounts for 26.6 percent of net income as compared to 29.1 percent last year. All of that indicates that the economy has largely functioned in a prudent manner, despite high inflation, in setting aside more money for expanding and advancing the material foundations of labor and capital reserves.

The fact that new winds are blowing in the Yugoslav economy is also borne out by the data on amortization payments. This amount totalled 291.9 billion dinars, and was larger by 41.3 percent over last year. The largest share of it was money set aside according to legal percentage regulations (274.6 billion dinars). It should be noted, however, that in addition to these usually minimum percentages, 17.3 billion dinars were also collected, or 190 percent more than in the first 6 months of last year. It is true that this is not a large amount of money, but the very fact that such capital has been accumulated under such circumstances of monetary devaluation deserves special recognition.

All of this could be perceived and interpreted as the approach of better days. Such a conclusion, however, would be premature considering that the economy is seeking to "reprogram" 130 billion dinars, and if one keeps in mind that the economy's annual dinar debt service, this fact speaks for itself. Incidentally, 42 billion dinars have so far been redesignated for debt service, while the commercial banking system is to take care of the remaining 70 billion dinars.

Despite these relatively favorable sums for capital accumulation, internal operating capital in the economy has not exceeded 14.8 percent. That is less than last year. Naturally, the question arises as to how the economy can carry on its everyday activities with so little of its own money. Crediting among enterprises has taken a major role, for it is hopeless to go knocking on the banks' doors. Even when they open, such credits are burdened with high interest rates. Besides that, the fact

remains that the chain of mutual agreements and demand within the framework of the economy has not diminished, nor are the obligations to the banks decreasing. In the same slow manner, the rights of the population and other forms of adjustments, such as advances (in case of purchase of goods), investments in greater production, and add-ons for development that are often handled as surcharges on certain types of goods, such as coal.

It is good when capital accumulation and amortization receive increasing attention, but we must be realistic in making estimates. All of that money is not sufficient to begin new undertakings within major amounts of credit. When inflation accelerates and seriously threatens the value of that money, the reason is clear why despite such forecasts domestic operations are still heavily in debt. To this should be added the 55 billion dinars in uncovered losses from last year, and the 97 billion from current operations. Only with all these factors in mind can we make a real evaluation of the state of the Yugoslav economy.

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